

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF THE STATE OF INDIANA
INDIANAPOLIS DIVISION**

JOYCE RICHARD)	CIVIL ACTION NO.
)	1:15-cv-1931 JMS-TAB
Plaintiff,)	
)	
vs.)	
)	
TOYOTA MOTOR CORPORATION (Toyota Jidosha Kabushiki Kaisha); TOYOTA MOTOR SALES USA, INC.; TOYOTA MOTOR ENGINEERING AND MANUFACTURING NORTH AMERICA, INC.; TOYOTA MOTOR NORTH AMERICA, INC.; AISIN SEIKI CO., LTD.; AISIN AISIN WARNER CO., LTD.; DENSO CORPORATION; TOYOTA INDUSTRIES CORPORATION; TOYOFUJI SHIPPING CO., LTD.; TOYOTA TRANSPORTATION CO., LTD; MITSUI & CO., LTD. (Mitsui Bussan Kabushiki Kaisha) TRANSFREIGHT LLC; SUMITOMO MITSUI BANKING CORPORATION)	PLAINTIFF'S AMENDED COMPLAINT
)	
Defendants.)	JURY TRIAL AND JURY TRIAL DETERMINATION OF DAMAGES DEMANDED

Forward

On September 20, 2018, adjudged alien rank infringer Defendant Toyota Motor Corporation ("TMC"), a *Japanese Corporation*, and its wholly owned subsidiaries, Defendant Toyota Motor Engineering and Manufacturing North America, Inc. ("TEMA") and adjudged alien rank infringer Defendant Toyota Motor Sales USA, Inc. ("TMS"), filed a motion to dismiss the above entitled action in the U.S. Judicial Panel on Multidistrict Litigation's ("JPML") April 9, 2010 created pre-trial multidistrict litigation *venue*, pursuant to 28 U.S.C. § 1407, known as *In re: Toyota Motor Corporation Unintended Acceleration Marketing, Sales Practices, and Products Liability Litigation* ("MDL No. 2151")(see *Richard v. Toyota*, Case No. 8:16-cv-01059-JVS-E (C.D. Cal. 2016) ECF No. 145 and/or MDL No. 2151, Case No. 8:10-ml-02151-JVS (Ex)/(FMOx) ECF No. 5644), located at the United States District Court for the Central District of California Southern (Santa Ana) into which

the identical Defendants did extrinsically fraudulently request, on February 5, 2016, that the JPML transfer the above entitled action, despite the product liability *venue* being truly preempted, unconstitutionally improper, lacking subject matter jurisdiction over the foreign imported adjudged rank infringing "2009 Prius" named in the original complaint, definitely lacking personal jurisdiction over the Plaintiff, and probably lacking personal jurisdiction over the adjudged alien rank infringer Defendants that requested it, for actual year 2006 federal jury trial verdict judgment(s) established, **intentional** *U.S. patent infringement*.

Plaintiff, Ms. Richard, respectfully files this Amended Complaint, pursuant to Federal Rule of Civil Procedure 15(a)(1)(B), that allows a plaintiff to amend a complaint once as a matter of course in response to a motion to dismiss. *See Swanigan v. City of Chicago*, 775 F.3d 953, 963 (7th Cir. 2015)(noting that the plaintiff "was entitled to amend his complaint to flesh out his original claims or attempt to cure any jurisdictional or legal defects" under rule 15 and that "Indeed, whether to allow an amendment was out of the court's hands entirely.")

Plaintiff relies on the instant amendment being out of the court's, and therefore, the MDL No. 2151, 28 U.S.C. § 1407(b) delimited transferee judge's, the Honorable James V. Selna's, hands entirely, in order to subsequently respectfully request that he recommend to the JPML an immediate remand of the claims herein related *with* transfer of the entire above entitled action's record out of the improper MDL No. 2151 product liability venue and into the Supreme Court of the United States venue of proper jurisdiction.

COMPLAINT

A. Parties and Facts Common to All Counts

1. At approximately 9:45pm EST on or about December 08, 2013 Plaintiff, Ms. Joyce Richard, a natural born citizen of the State of Indiana residing in Marion County, sustained serious bodily injury, property damages, and other damages after driving a subject foreign imported, adjudged rank U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with HYBRID SYNERGY DRIVE ("infringing Prius II," or "Generation II," or "Gen II," or "Prius"), that was

intentionally manufactured, counterfeit and/or spurious labeled, and extrinsically fraudulently "self-certified" as a U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standard ("FMVSS") comporting passenger car/motor vehicle bearing "Vehicle Identification Number (VIN)" JTDKB20U993486580 by adjudged alien rank infringer defendant Toyota Motor Corporation ("TMC") and those in privity with it, of and/or by their counsel(s), before, during, and after the said Prius' 2008 assembly at the Toyota Motor Corporation Tsutsumi Plant in Toyota City, Aichi Prefecture, Japan. The Plaintiff would not have driven the 2009 Prius if defendant TMC had informed her about TMC's truly adjudged alien rank infringer status and/or disclosed the 2009 Prius' patent infringing and/or counterfeited, *counterfeit marked*, and extrinsically fraudulently "self-certified" condition.

2. Defendant Toyota Motor Corporation ("TMC")(a.k.a. Toyota Jidosha Kabushiki Kaisha), a *Japanese Corporation*, at all times relevant herein, was an August 16, 2006 adjudged, alien rank infringer of federally protected U.S. intellectual property, including but not limited to, the "HYBRID ELECTRIC VEHICLE" entitled U.S. Patent 5,343,970 claims 11 and 39. Prior to the judgment, Exhibit C of a March 19, 2014 partly related and publicly announced Deferred Prosecution Agreement against certain Defendants for criminal wire fraud, explained that TMC had been an automotive company headquartered in Toyota City, Japan. Assisted by its subsidiaries and affiliates worldwide..." that "...designs, manufactures, assembles, and sells Toyota and Lexus brand vehicles." There is also a Toyota Group that Defendant Toyota Industries Corporation identifies as also headed by TMC. Adjudged alien rank infringer TMC infringed U.S. Patent 5,343,970 by manufacturing the foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE in Aichi Prefecture Japan in 2008, affixing *counterfeit marks* of HYPERDRIVE™ on the Prius' rear door, power control unit housing, and documentation, and extrinsically fraudulently "self-certifying" it as a U.S. NHTSA and U.S. FMVSS comporting passenger car/motor vehicle with "VIN" JTDKB20U993486580, to breach U.S. borders and distribute interstate for commercial advantage and/or private financial gain, because the said 2006 federal jury trial verdict judgment against TMC,

as affirmed on appeal and cross appeal and remand, made TMC well aware that TMC was without authority to "make, use, offer to sell, and/or sell" any such thing, for *patent infringement*.

3. Defendant Toyota Motor Sales USA, Inc. ("TMS"), at all times relevant herein, was an August 16, 2006 adjudged, alien rank infringer of federally protected U.S. intellectual property, including but not limited to, the "HYBRID ELECTRIC VEHICLE" entitled U.S. Patent 5,343,970 claims 11 and 39. Prior to the judgment, Exhibit C of a March 19, 2014 partly related and publicly announced Deferred Prosecution Agreement against certain Defendants for criminal wire fraud, TMS was "an entity that is a wholly-owned subsidiary of..." TMC "...and headquartered in Torrance, California . . . responsible for sales and marketing of Toyota and Lexus brand vehicles in the United States." TMC has 100% voting interest in TMS.

4. Defendant Toyota Motor Engineering and Manufacturing North America, Inc. ("TEMA"), at all times relevant herein, was a foreign corporation doing business in Indiana. According to Exhibit C of a March 19, 2014 partly related and publicly announced Deferred Prosecution Agreement against certain Defendants for criminal wire fraud, "...At least through February 2010, decisions about whether and when to conduct recalls of Toyota and Lexus vehicles were made by the leadership of a group within..." TMC "...called "Customer Quality Engineering," which was centered in Japan and sometimes referred to as "CQE-J." Customer Quality Engineering had regional arms ***responsible for monitoring vehicle quality issues in the "field" (that is, for vehicles already on the road)*** in their respective regions. These regional arms regularly reported field issues and results of vehicle inspections and testing to CQE-J. The U.S. regional arm, located in Torrance, California, was called "CQE-LA." Technically, CQE-LA was part of Toyota Motor Engineering & Manufacturing North America, Inc. ("TEMA"), an entity that is a wholly-owned subsidiary of..." TMC "...headquartered in Kentucky and principally responsible for North American manufacturing of Toyota and Lexus vehicles. In practice, CQE-LA staff reported to CQE-J's leadership." Adjudged alien rank infringer TMC has 100% voting interest in TEMA.

5. Defendant Toyota Motor North America, Inc. ("TMNA"), at all times relevant herein, was

an August 16, 2006 adjudged, alien rank infringer of *federally* protected U.S. intellectual property, including but not limited to, the "HYBRID ELECTRIC VEHICLE" entitled U.S. Patent 5,343,970 claims 11 and 39. Prior thereto, pursuant to Exhibit C of the said March 19, 2014 publicly announced Deferred Prosecution Agreement for criminal wire fraud, TMNA "is an entity that is a wholly-owned subsidiary of..." TMC "...with offices in New York, NY, and Washington, DC. The Washington, DC office was responsible for reporting to and interacting with..." TMC's "...U.S. regulator, the National Highway Traffic Safety Administration ("NHTSA")." TMC has 100% voting interest in TMNA.

6. Defendant Aisin Seiki Co., Ltd. ("AISIN"), a *Japanese Corporation*, at all times relevant herein, was a wholly-owned subsidiary of adjudged alien rank infringer TMC, pursuant to May 13, 2002, dated "Form 6-K" "Report of Foreign Issuer" submitted to the United States Securities and Exchange Commission in Washington, D.C. 20549, by one "Toyota Motor Corporation (Translation of Registrant's Name into English)." TMC noted AISIN as a "Compan[y] accounted for under the equity method ["in accordance with accounting principles generally accepted in Japan"]." As recently as June 23, 2016, the Toyota Global [web][s]ite for the Toyota Group lists AISIN as an entity established in August of 1965 primarily engaged in manufacture and sales of auto parts. Unbeknownst to the Plaintiff, AISIN entered into a November 13, 2014, dated Plea Agreement for criminal consumer allocation for automotive parts pricing and judgment by the identical Indiana federal court in which the original complaint in the above entitled action was filed. AISIN was beholden to TMC, or has legal privity with TMC, for licensing the TMC "hybrid system II" referenced by name on Page 13 of U.S. International Trade Commission ("ITC") Investigation 337-688, May 21, 2010, dated Order No. 12, as "...any system that infringes the '970 patent, including but not limited to the 2004 model year and later Toyota Prius, the Toyota Highlander hybrid, the Lexus RX 400h and all other vehicles or systems substantially embodying what is variously termed the Hybrid Synergy Drive or Toyota Hybrid System II ("THS II") and colorable imitations thereof;")(emphasis added).)" that also comprises the subject foreign imported adjudged rank "infringing Prius II"

explicitly disclosed in the *federal* district court jury trial verdict judgment(s) for patent infringement against TMC, to other automobile makers. AISIN was not named Defendant in the *patent infringement* judgment(s) against TMC, TMS, and TMNA. AISIN is headquartered in Kariya, Aichi Prefecture, Japan, and has 100% voting interest in its wholly-owned subsidiary Aisin Aisin-Warner Co., Ltd..

7. Defendant Aisin Aisin-Warner Co., Ltd. ("AISIN-AW"), a *Japanese Corporation*, at all times relevant herein, is wholly owned by AISIN. AISIN-AW was not named Defendant in the *patent infringement* judgment(s) against TMC, TMS, and TMNA. As late as June 24, 2016, AISIN-AW website *in Japan* claimed credit for developing the 2004 Toyota Prius' "transmission," yet the said infringed inventor's U.S. Patent 5,343,970 indicates that there is no "transmission" in the **adjudicated** foreign imported articles, including the subject 2009 Prius. AISIN-AW is headquartered in Anjo, Aichi Prefecture, Japan.

8. Defendant Denso Corporation ("DENSO")(a.k.a. and/or formerly "(Nippon) Denso Co., Ltd."), a *Japanese Corporation*, at all times relevant herein, was a wholly-owned subsidiary of adjudged alien rank infringer TMC, pursuant to May 13, 2002, dated "Form 6-K" designated "Report of Foreign Issuer" submitted to the United States Securities and Exchange Commission in Washington, D.C. 20549, by one "Toyota Motor Corporation (Translation of Registrant's Name into English)." TMC noted DENSO as a "Compan[y] accounted for under the equity method ["in accordance with accounting principles generally accepted in Japan"]." DENSO entered into a March 5, 2010, dated Plea Agreement for criminal combination and conspiracy related to the prices of electronic control units ("ECUs") and heater control panels ("HCPs"). DENSO was represented as the manufacturer of the airbag inflator, crash sensor, throttle pedal, throttle position sensor, brake resistor, brake actuator, and several power control modules on the engine ECU of the subject 2009 Prius, *in Japan*, that was imported and distributed interstate after breaching U.S. borders as a TMC "self-certified" NHTSA and FMVSS compliant passenger car/motor vehicle, to proximately cause *serious bodily injury* to the Plaintiff, Ms. Richard. DENSO is headquartered in Kariya, Aichi

Prefecture, Japan.

9. Defendant Toyota Industries Corporation ("TICO"), at all times relevant herein, apparently had origins arising from one Sakichi Toyoda's 1897 completion of a Toyoda Wooden Power Loom and establishment of the company "Toyota Shoten" to manufacture and sell it, which became Toyota Automatic Loom Works Ltd.. The latter established an automobile division in 1933 for Toyoda's son and ultimately spun-off the division in 1937, by creating Toyota Jidosha Kogyo ("Toyota Motor Industry, Co, Ltd."), that evolved into the adjudged alien rank infringer TMC.

TICO related to the U.S. Securities and Exchange Commission ("SEC") on page 32 of a January 12, 2003 processed Annual Report for the year ending March 31, 2003:

"Toyota Industries' Corporate Technical Center develops and manufactures power electronics parts for automobiles, and engages in basic R&D in the materials field as well as research in the latest technologies, such as electronics for commercial use. The Center also serves as Toyota Industries' R&D facility and its production base for a vast array of electronics parts, so accumulating know-how in product manufacture. Products include a DC-DC converter that fully employs the Center's long-cultivated power electronics technology and expertise. Fitted in Toyota Motor Corporations' Prius hybrid car as a main component, the converter is a switching power supply that down-converts the high-voltage current of the main battery to a lower DC current to supply power for the headlights, air conditioners and electric control units via the auxiliary battery. The Center aims to establish a position as a manufacturer of power sources for hybrid cars."

Page 33 furthers under Research and Development:

"The Corporate Technical Center takes the initiative in basic R&D in the materials field as well as research in the latest technologies, such as electronics. The Center engages in R&D together with each division or independently, depending on the research themes. We also collaborate with Toyota Central Research & Development Laboratories, Inc., an R&D facility of the Toyota Group, and other outside R&D institutions, including universities. In addition, in July 2003 we set up the New Electronics Department within the Corporate Technical Center, establishing a structure to deal with new business endeavors in the electronics field.

In January 2003, Toyota Industries combined the Technical Planning Department, which was responsible for company-wide technological management, and the Business Development Department, which was charged with creating new businesses, and established the Business Planning Department within the Corporate Center to promote new business development and quicker decision-making with regard to new businesses and technological management. This department engages in the lateral transfer of technologies among the different divisions and the examination of new technology development themes in order to establish a strong and efficient corporate R&D structure. It also utilizes the long-accumulated technological know-how and outside network (both people and information) of each division to systematically and continually explore the potential for new products and services that may become future pillars of our business."

Page 34 of the same relates:

"The following are some of the new products unveiled in fiscal 2003.

Automobile Segment

Electrically driven CO₂ car air-conditioning compressor

HFC-134a, the hydrofluorocarbon most commonly used as a refrigerant for car air-conditioning compressors at the moment, is effective in preventing the destruction of the ozone layer. However, its global-warming potential is 1,300 times that of CO₂. Toyota Industries developed jointly with DENSO Corporation a car air-conditioning compressor that uses CO₂ as a refrigerant, presumed to be effective in remedying both problems. This CO₂ compressor is incorporated in the fuel-cell hybrid vehicles developed by Toyota Motor Corporation, which were delivered to the Japanese government in December 2002."

Page 35 of the same is captioned Corporate Governance and relates at the second paragraph:

"Although amendments to Japan's Commercial Code (effective as of April 1, 2003) allow selective introduction of U.S.-style, committee-based corporate governance, we opted to retain the Japanese conventional auditing system because we deemed it fully capable of doing the job. . . . This section covers the corporate governance system of [TICO] as of July 1, 2003."

Page 47 that is in the Financial Section captioned Management's Discussion and Analysis for

Financial Condition and Results of Operations at Car Air-Conditioning Compressor Business says:

"Car air-conditioning compressors developed and manufactured by Toyota Industries are marketed to leading auto manufacturers worldwide through DENSO Corporation ("DENSO"). Sales of car air-conditioning compressors in the domestic market increased due largely to a transfer of the assembly line for scroll-type compressors from DENSO. Overseas, orders increased in North America and sales expanded in Europe."

Page 50 of the same relates under the heading Strategies and Projections Business Strategies that:

"Since its establishment as a textile machinery manufacturer over 75 years ago, Toyota Industries has expanded the scope of its specific characteristics. The operational strategies for these categories are based on the mission assigned to each category. ... The first category, the Vehicle Business and the Engine Business, handles mainly the production of vehicles consigned by TMC and production of engines for TOYOTA cars. To play a more important role in the Toyota Group, Toyota Industries is making continual efforts to improve its production technologies and strengthen quality control. ... Aiming to play a more important role in the development and production of TOYOTA cars and engines, Toyota Industries will step up its efforts to strengthen its research and development capability and improve productivity. In its work in this category for TMC, Toyota Industries will also make proposals for the design and launch of auto parts and small cars, and actively work to ensure that such proposals are adopted.

The second category, which comprises the Car Air-Conditioning and compressor Business, the Material Handling Equipment Business and the Textile Machinery Business, is identified as a business field in which Toyota Industries must cultivate further development of global markets by precisely grasping customers' needs, and developing and marketing state-of-the-art products that meet these needs through the

application of original technologies. Firmly believing that technological improvement is the key to competitiveness, Toyota Industries strives to strengthen its technological development capabilities by fostering the training and development of superior engineers. Since the Car Air-Conditioning Compressor Business and the Materials Handling Equipment Business are positioned as core businesses, Toyota Industries places a priority on them in its allocation of management resources"

Page 52 of the same relates under the caption Toyota Industries' Relationship to Toyota Motor Corporation ("TMC"):

"Because of its historical background, Toyota Industries has a close relationship with TMC and Toyota Group companies in terms of capital investment and business dealings. In 1933, Kiichiro Toyoda, eldest son and founder Sakichi Toyoda and Managing Director of Toyota Industries (then Toyoda Automatic Loom Works, Ltd.) at the time, established the Automobile Division within the Company. In 1937, the Automobile Division was spun off and became an independent company, Toyota Motor Co., Ltd. (the present Toyota Motor Corporation). As of March 31, 2003, Toyota Industries holds 5.4% (196,725 thousand shares) of TMC's total shares issued. As of the same date, TMC holds 24.7% (72,316 thousand shares) of total voting rights. Toyota Industries is one of TMC's affiliates accounted for by the equity method.

TMC assigns the assembly of certain cars and the production of automobile engines to us. We also directly or indirectly manufacture and sell other automobile components to TMC. In fiscal 2003, our net sales to Toyota Group companies accounted for approximately 56% of consolidated net sales.

As a member of the Toyota Group, we intend to enhance the competitiveness of TMC and other Toyota Group companies by contributing in such areas as quality, cost, delivery and technology. We believe that this will be reflected in increases in sales and profits for the Toyota Group, thus increasing the shareholder value of Toyota Industries."

Page 94 of the same relates under the heading Electronics Corporate Technical Center:

"The Corporate Technical Center carries out product planning, design and manufacture of products related mainly to power supply and communications.

The Center manufactures DC-AC inverters that convert 12V DC car battery current to 100V AC (standard Japanese household current) and DC-DC converters fitted in TOYOTA Prius hybrid cars. It also develops and manufactures SS wireless modems. Serving as Toyota Industries' R&D base, the Center is engaged in basic R&D in the materials field as well as research in the latest technologies, such as electronics."

Page 53 of TICO's June 24, 2004, dated SEC Rule 12g3-2(b) filing is from its 2004 Semi-annual

Report, that discloses under the caption Commercialization of Electrically-Driven Car Air-

Conditioning Compressors for Hybrid Cars:

"We also developed jointly with DENSO and started production of an electrically driven car air-conditioning compressor ("Electrically Driven Compressor ES18") for hybrid cars. Unlike conventional compressors that are belt-driven by the engine, this compressor is driven by a built-in motor. As a result, the air-conditioner remains on even when the engine is turned off, ensuring both interior comfort and fuel economy for idling stop vehicles such as hybrid cars . . . It is installed in the new Prius, which was introduced to

the market by TMC in September 2003."

TICO is headquartered in Kariya, Aichi Prefecture, Japan.

10. Defendant Toyofuji Shipping Co., Ltd. ("TOYOFUJI"), a *Japanese Corporation*, at all times relevant herein was formed in 1964 by three firms (1) Toyota Motor Co., Ltd., (2) Fujitrans Corporation (formerly Fujiki Kaiun Kaisha, Ltd.), and (3) Toyota Land Transportation Co., Ltd. (a.k.a. Toyota Transportation Co., Ltd.), that in 1964 collectively invested in forming Toyofuji Shipping Co., Ltd.. TOYOFUJI has more recently advertised itself, "As the Toyota group's sole marine transport company." As such, TOYOFUJI conveyed the subject foreign imported adjudged rank infringing 2009 Prius on a ship in admiralty on high seas from Japan through U.S. borders in 2008.

TOYOFUJI is headquartered in Tokai City, Aichi Prefecture, Japan.

11. Defendant Toyota Transportation Co., Ltd. ("TTCO"), a *Japanese Corporation*, at all times relevant herein initially invested in TOYOFUJI and provides Transportation, Logistics, and Trucking as a 1952 established division of Toyota Motor Sales Co., Ltd. *in Japan* prior to the latter's 1980s merger with Toyota Motor Co., Ltd., which collectively became the adjudged alien rank infringer TMC. As such, TTCO contributed to conveying the subject foreign imported adjudged rank infringing 2009 Prius to, on, and/or from on a ship in admiralty on high seas from Japan through U.S. borders in 2008 and/or thereafter. TTCO is headquartered in Toyota City, Aichi Prefecture, Japan.

12. Defendant Mitsui & Co., Ltd. (a.k.a. Mitsui Bussan Kabushiki Kaisha)("MITSUI"), a *Japanese Corporation*, at all times relevant herein purports to have no relationship to an entity of the identical same name, that had a relationship predating TICO, arising from one Sakichi Toyoda's 1897 completion of a Toyoda Wooden Power Loom and establishment of the company to sell it named "Toyota Shoten." A Nagoya branch cotton inspector for the pre-1940s Mitsui & Co., Ltd. ("MITSUI-1") appreciated the loom woven product, prompting an 1899 exclusive sales contract between "Toyota Shoten" and MITSUI-1, for which MITSUI-1 formed a company called "Igeta Shokai" (after the Mitsui mark), with Toyoda as chief engineer, to sell the power looms on "Toyota

Shoten's" behalf. Apparently, China's Boxer Rebellion downsized the spinning industry and forced Igeta Shokai to close. However, MITSUI-1 continued financing the growth of Toyota Shoten, that became Toyota Shokai, for which MITSUI-1 proposed in 1906 a reorganization into a stock company to introduce capital from large-scale spinning companies, which Sakichi Toyota accepted, that established Toyota Loom Works Co., Ltd.. With MITSUI-1 Nagoya branch's continued support, the 1926 Toyota Automatic Loom Works Co., Ltd, which became TICO was established as represented in ¶ 9 above.

MITSUI represented to the SEC on page 19 of a "Form 20-F" filing for the fiscal year ended March 31, 2003, under the caption **Non-Ferrous Metals Unit**:

"We diversify our business through natural resource investments, global trading and development and promotion of alternative investment products through our subsidiary licensed by governmental regulators. ... We further enhanced our resource investment activities by participating in a nickel-cobalt mining and refining project at Rio Tuba area in the Republic of Philippines, to be developed jointly with Sumitomo Metal Mining Co., Ltd., Nissho Iwai Corporation, and a local partner in the country. This project will produce nickel-cobalt mixed sulfide through a high-pressure acid leaching process, an advanced processing technologies for nickel production."

Page 22 furthers under the caption **Motor Vehicles, Marine & Aerospace Business Unit**:

"Motor Vehicles, Marine & Aerospace Business Unit has the following divisions: First and Second Motor Vehicles Divisions, Ship & Marine Project Division, and Aerospace Systems Division. Brief description of these divisions is set forth below.

First and Second Motor Vehicles Divisions

In our motor vehicles business, our strength lies in our value added services that we offer in our traditional and core fields such as assembly and manufacturing, import and export, and distribution of motor vehicles and their parts. For example, we have been exporting Toyota, Subaru, and other Japanese manufacturers' cars to various countries worldwide such as Canada (Toyota), Chile (Toyota), Peru (Toyota), Italy (Subaru), Germany (Subaru and Yamaha), Thailand (Hino) and Malaysia (Daihatsu). We have set up subsidiaries and associated companies in these countries for distribution purposes. We continue to proceed with the strategic allocation of our financial and human resources to certain prioritized areas of our motor vehicles business worldwide such as logistics and retail operations and retail finance and auction business. For example, we have operated a retail finance company for Yamaha motorcycles in Indonesia since 1997. Also, we have been handling the logistics operations of automobile parts for Toyota's manufacturing operation in North America and Europe area.

With regard to retail operations, we acquired a 7.8% interest in United Auto Group, Inc., an American automobile retail company which has expertise for retail operation in

the United States and have been seeking an opportunity to develop joint retail operations in various regions. We have also invested in an auction business for used cars as a business partner of J.A.A., an auction trader in Japan. In order to establish ourselves in the automobile auction business, we, along with J.A.A., established an automobile auction joint venture company in Germany.

Ship & Marine Project Division

We maintain our marine-related operations by continuous alliances with various owners and operators of ships and also by providing multifunctional services, which include purchase and sale of various types of ships including bulk carriers, container carriers and tankers, financing activities, management of ship construction and operations, as well as chartering services. In addition, through our partnership with major petroleum companies such as Chevron Texaco Corporation, we actively participate in business transactions involving tankers, LPG and LNG carriers, as well as Floating Production Storage and Offloading units for energy development operations. For example, we won projects for Floating Storage and Offloading and Floating Production Storage and Offloading projects with Chevron Angola and Conoco Vietnam, respectively."

Furthermore, in 2008 MITSUI represented that in October of 1998 MITSUI established its 100% owned subsidiary Transfreight, LLC for "Distribution of parts used for manufacturing products" in the U.S.A.. Page 78 of the same indicates that MITSUI has as a 3.62% shareholder the Sumitomo Mitsui Banking Corporation, which page 45 of the same relates as having formed from the merger of The Sakura Bank, Ltd. and The Sumitomo Bank, Ltd.. For providing Transportation, Logistics, and/or Trucking and/or financial support and/or sourcing nickel, for the 114lbs. weighing U.S. Patent 5,343,970 disclosed extremely high voltage [nickel-metal hydride] battery, that could not be crammed under the Prius hood, which the adjudged alien rank infringer(s) mounted on a sharp edge that faces rear seated Prius passengers' (soccer moms' precious cargo) spines, under a piece of cloth, MITSUI contributed to conveying the subject foreign imported adjudged rank infringing 2009 Prius to, on, and/or from on a ship in admiralty on high seas from Japan through U.S. borders in 2008 and/or thereafter, that was subsequently purchased by Indianapolis Butler Hyundai motor vehicle dealer at auction. MITSUI is headquartered in Tokyo, Japan.

VENUE

13. Venue may be justifiably determined by 1891 U.S. Patent law, in accordance with temporal considerations by the Supreme Court of the United States in *TC Heartland*, which involved

an Indiana party. Plaintiff is a resident of Indiana, where the December 8, 2013, date incident occurred, where Plaintiff's medical treatment has been occurring, and where the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE was offered for sale.

14. *Brunette Machine Works, Ltd. v. Kockum Industries, Inc.*, 406 U.S. 706 (1972)("a suit against an alien is wholly outside the operation of all federal venue laws (whether general or special)"), in context of the herein invoked 1870 Patent Act, governs this complaint in alienage diversity jurisdiction and patent infringement, for the above named alien *Japanese Corporation* defendant(s). On May 10, 2018, the United States Court of Appeals for the Federal Circuit ("Federal Circuit") followed the *Brunette* holding in *In re HTC Corporation*, Misc. 2018-130 (May 5, 2018) by ruling that venue in suits against foreign alien defendants is governed by 2011 amendments provided by 28 U.S.C. § 1931(c)(3)(2011), which do not "make venue protections applicable to alien defendants."

15. Classically, Section 11 of the 1789 Judiciary Act (1 Stat. 73, **78**) that gave states courts and the federal circuit courts concurrent jurisdiction over violations arising from violations of the prohibition at U.S. CONST. Art. I, § 8, cl. 8, as herein alleged, was given over completely to the federal circuit courts by the:

"5th section of the act of February 21, 1794 "an act to promote the progress of the useful arts," &c., jurisdiction in actions for violations of patent rights, is given to the Circuit courts. ... In such cases appeals lie to the Supreme Court of the United States. So also in cases of interest, or disability of a district judge. Act of May 8, 1792, sec. 11; act of March 2, 1809, sec. 1; act of March 3, 1821."

16. An August 16, 2006, dated Eastern District of Texas federal court judgment *on the merits* upheld a December 20, 2005, dated federal jury verdict against "Toyota Motor Corp. [("TMC")], a *Japanese corporation*, Toyota Motor North America Inc. [("TMNA")], and Toyota Motor Sales USA, Inc. [("TMS")] (collectively "Defendants") for infringement of U.S. Letters Patent No. 5,343,970 ("the '970 patent"), claims 11 and 39" for having manufactured each foreign imported "infringing Prius II," in *Paice v. Toyota*, Case No. 2:04-cv-211 (E.D. Tex (2006))("PaiceI"). A true copy of the U.S. Letters Patent 5,343,970 is hereto attached as **Exhibit 1**. A copy of the complaint against the said

defendants is hereto attached as **Exhibit 2**. A certified true copy of the judgment is hereto attached as **Exhibit 3**.

17. On October 18, 2007, the verdict was affirmed on appeal and cross appeal by the United States Court of Appeals for the Federal Circuit in *Paice v. Toyota*, 504 F.3d 1293 (Fed. Cir. 2007) ("*Paice II*"). A certified copy of the 2007 dated ruling is hereto attached as **Exhibit 4**.

18. On May 12, 2008, the Supreme Court of the United States denied Toyota Motor Corporation et al.'s petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit. A true copy of the 2008 dated repository entry is hereto attached as **Exhibit 5**.

19. It was subsequent to the appeal and cross appeal upholding the federal jury trial verdict of infringement and the denial of certiorari that the adjudged alien rank infringers, those in privity with them, of and by their counsel(s), manufactured the subject adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE that proximately caused the serious bodily injury, property damages, and other damages at issue in the above entitled action. See **Exhibit 6** depicting the "Vehicle Identification" plate indicating "10/2008" and "Made in Japan by Toyota Motor Corporation" written in plain block letters as TMC's "self-certification" on the subject 2009 Prius.

20. On remand in *Paice v. Toyota*, 609 F.Supp.2d 620, 625 (E.D. Tex. 2009) ("*Paice III*"), the federal court issued an April 17, 2009, dated memorandum opinion to the explicit effect that (1) the upheld jury verdict (2) applied to the life of the September 21, 1992, filed and September 6, 1994, registered "HYBRID ELECTRIC VEHICLE" entitled U.S. Patent 5,343,970 ("the '970 patent") and clearly stated that (3) ongoing infringement by the defendants was "voluntary and intentional," (4) meriting an exceptional case, given (5) the change in their status after the patent infringement verdict against them. A true copy of the PACER filed memorandum opinion is hereto attached as **Exhibit 7**.

21. The adjudged alien rank infringer defendants TMC and TMS in the above entitled action are identical to the TMC and TMS defendants in the prior 2006 *patent infringement* action, and subject to *res judicata* as non-mutual offensive collateral issue preclusion, with respect to the prior

litigation's factually established venue, jurisdiction, and intentional infringement of the identical U.S. Patent 5,343,970 matters, with respect to the identical foreign imported adjudged rank "infringing Prius II," that includes the 2008 manufactured and extrinsically fraudulently "motor year 2009" *self-certified* Prius with HYBRID SYNERGY DRIVE, in both the prior and instant actions. The Plaintiff, Ms. Richard was not party to the prior action(s).

22. For venue purposes, among other things, "Where the jurisdiction of the federal courts has once attached, no subsequent change in the relation or condition of the parties in the progress of the cause, will oust that jurisdiction." *The United States v. Meyers*, 2 Brocken, C. C. R. 516.

23. By *Brunette*, the original United States District Court for the Southern District of Indiana, Indianapolis *trial court* venue was proper under 28 U.S.C. § 1338(a), 28 U.S.C. § 1391, and Federal Circuit law regarding FRCP Rule 4(k)(2), to receive the Plaintiff's instant complaint, entertain Plaintiff's request(s) to amend and, by 1891 judicial and patent venue governance, proper to receive alien defendant(s) required motion to remove the case to the nearest federal circuit court, the United States District Court for the Seventh Circuit, for trial.

24. Rather than request removal to the nearest circuit court for the foreign imported adjudged rank "infringing Prius II," or 2009 Prius at the heart of the above entitled action, as truly undisclosed adjudged rank infringing and **extrinsically fraudulently** "self-certified" (*see* Best Practices for Foreign Importers of Motor Vehicle Products) by the adjudged alien rank infringer TMC as a U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standard ("FMVSS") comporting *passenger car* (*see* NHTSA Authorization Act of 1991 § 2502(a)(3)) and/or *motor vehicle* (*see* 18 U.S.C. § 31(a)(6), 49 U.S.C. § **30102(a)(7)**, 49 U.S.C. § 31301(12)), when it was clearly not, the adjudged alien rank infringer TMS instead requested, on February 4, 2016, that the U.S. Judicial Panel on Multidistrict Litigation ("JPML") remove this case to a wholly improper multidistrict litigation *venue* for defective domestic Toyota [motor] vehicles.

25. Such *venue* is improper, because the Supreme court of the United States decided in *Sears, roebuck & Co. v. Stiffel Co.*, 376 U.S. 225 (1964)[*See also Compco Corp. v. Day-brite*

Lighting, Inc., 376 U.S. 234 (1964).] that "state law of unfair competition is preempted by federal intellectual property law." Furthermore, the federal patent misuse doctrine preempts state contract law as evident in *Unarco Industries, Inc. v. Kelley Co., Inc.*, 465 F.2d 1303, 175 U.S.P.Q. (BNA) 199 (7th Cir. 1972), with respect to "overriding policy embodied in the patent law itself." See *Timely Products, Inc. v. Constanzo*, 465 F.SUPP. 91, 201 U.S.P.Q. (BNA) 567 (D. Conn. 1979). Indeed, all state-based claims, premised on motor vehicle defect or otherwise (i.e. *Hess v. Pawloski*, 274 U.S. 352 (1927)("equating the use of a state's highways to consent to the state's jurisdiction should a traffic accident result")), are preempted for the factual federal jury trial verdict judgment(s) of patent infringement as affirmed on appeal, cross-appeal and remand.

26. The adjudged alien rank infringer(s) committed the fraud of certifying the "infringing Prius II" to be a domestic passenger car/motor vehicle in *bad faith* and in equally, if not worse *bad faith*, deliberately **never gave written prior notice** of its motion for removal of the instant action to the inapposite defective motor vehicle multidistrict litigation venue to the Plaintiff, apparently never informed the Plaintiff, INSD, JPML, or the JPML's assigned 28 U.S.C. § 1047(b) delimited transferee judge of the true TMC, TMNA, and TMS' adjudged alien rank infringer status or the status of the adjudged foreign imported adjudged rank infringing Prius II (See 35 U.S.C. § 271(a). See *Novamedix, Ltd. v. NDM Acquisition Corp.*, 166 F.3d 1177, 49 U.S.P.Q.2d 1613 (Fed. Cir. 1999)(A settlement agreement between the parties to a patent infringement suit where there is a transfer of inventory from one party to the other is not a contract for the sale of the goods and therefore the implied warranties of merchantability and fitness of the UCC do not apply to the transferred inventory.")), among other things, and never filed actual written notice of any kind or TMS' actual moving party motion, pursuant to 28 U.S.C. § 1407(c)(ii), on the docket for the pending action 1:15-cv-01931-JMS-TAB at the U.S. District Court for the Southern District of Indiana Indianapolis, that unbeknownst to the Plaintiff had previously presided over a criminal plea agreement and judgment for violations of the Sherman Act against the identical above named defendant AISIN.

27. Although the U.S. Court of Appeals for the Seventh Circuit is closest to the United States

District Court for the Southern District of Indiana, pursuant to 1891 patent law, and the true venue to which the adjudged alien rank infringers had an obligation to request the transfer of this case to the nearest circuit, the law of the U.S. Court of Appeals for the Federal Circuit governs substantive patent law, including matters arising from violation of the prohibition at U.S. CONST. Art. 1 § 8, cl. 8, which factually occurred, according to *Paice I*, *Paice II*, and *Paice III* judgment(s) of federal patent infringement against the Defendants TMC, TMS, and TMNA. The Federal Circuit ("Federal Circuit") has abandoned the "practice of applying regional circuit law in resolving questions involving the relationship between patent law and other federal and state law rights." *See Midwest Industries, Inc. v. Karavan Trailers, Inc.*, 174 F.3d 1356 (Fed. Cir. 1999).

28. Without any apparent disclosure of the foregoing to the JPML, and without the Plaintiff having knowledge to relate such to the JPML at the time, the JPML granted the adjudged alien rank infringer TMS' request to transfer all pretrial jurisdiction in the case, on June 2, 2016, pursuant to 28 U.S.C. § 1407 and rules promulgated thereunder, to the JPML's April 9, 2010, created domestic multidistrict litigation for defective Toyota vehicles. It appears that the JPML did so because the 28 U.S.C. § 1407(b) depositions delimited transferee judge, Hon. James V. Selna, appointed by the JPML to preside over MDL No. 2151, had issued class certification and a final settlement agreement (s) for defective domestic motor vehicles to include the foreign imported subject adjudged rank "infringing" 2009 "Prius [II]" with HYBRID SYNERGY DRIVE, without any Congressional authority at the 1968 Multidistrict Litigation Act (P.L. 90-296 (1968)) and/or rules promulgated thereunder, *without any merit*, by ostensibly usurping the prior federal jury verdict trial judgment of infringement that was on the merits, for the adjudged alien rank infringer's fraud, beyond creating civil rights violations galore in coercing surviving victims to release privileged true motor vehicle operator and HIPAA protected information to adjudged alien rank infringer defendants, and engendering a massive conflict of laws in inconsistent federal judgments in the U.S. Judiciary.

29. The defective Toyota vehicle multidistrict litigation venue MDL No. 2151 is improper, preempted, not of competent subject matter jurisdiction, and lacks personal jurisdiction over the

parties to preside over the above entitled action that, pursuant to 35 U.S.C. § 271(a) and *Novamedix*, arises from a truly foreign imported subject adjudged rank "infringing [2009] Prius [II]" with HYBRID SYNERGY DRIVE in which the adjudged alien rank infringers never held any title to transfer to anyone, on Uniform Commercial Code sale, for such "infringing [2009] Prius [II]" never having actually been any Toyota property or vehicle, defective or otherwise, as that which TMC, TMS, and TMNA were truly "without authority to "make, use, offer to sell, and/or sell."

30. The Honorable James V. Selna, transferee judge located at the JPML's designated host U.S. District Court for the Central District of California venue for the MDL No. 2151 venue is neither fair nor impartial in the instant case, for having arbitrarily ordered the "infringing Prius II" as anything, when Congressional authority at 28 U.S.C. § 1407(b) delimited his capacity in all transferred actions to personally conducting depositions, for the express purpose of remanding the actions to the *trial courts* from whence they came, pursuant to 28 U.S.C. § 1407(a). **Lexecon**, also **different judges**

31. The Honorable James V. Selna had no authority after the JPML's April 9, 2010 establishment of MDL No. 2151 and no authority after the JPML's June 2, 2016, issued Transfer Order for the above entitled action, to bootstrap himself into violating the civil rights of unknown numbers of victims of foreign imported adjudged rank infringing Prius and/or HYBRID SYNERGY DRIVE, for certifying such as true domestic motor vehicles in class certification and final settlement agreement orders, in violation of his delimited 28 U.S.C. § 1407(b) and rendered true trial court U.S. CONST. Art. I and Art. III federal Judiciary judgment authority, for the 2006 federal jury verdict judgment of *patent infringement*.

32. The injury that the Honorable Selna did to the Plaintiff, Ms. Richard, by feigning to issue orders that coerced her under color of the U.S. Judiciary authority vested in the JPML and United States District Court for the Central District of California Southern (Santa Ana) venues, to supply her privileged motor vehicle operator information and HIPAA and Privacy Act protected vital statistics to adjudged alien rank infringers, of and by their counsel(s), in violation of U.S. National Security and

the the U.S.A. P.A.T.R.I.O.T. Act under threat of case dismissal, has proximately caused Ms. Richard injury in her property in her Fifth, Seventh, and 14th Amendment rights to due process and U.S. Freedom of Information Act protections, among other things.

33. Such acts by the Honorable Selna in the improper *multidistrict* litigation venue against many more victims not only violates judicial repose established by the federal jury trial judgment of *patent infringement* against the adjudged alien rank infringers, but violates the U.S. supremacy clause at U.S. Const. Art. VI, cl. 2, depreciates the true values of the cases of U.S. victims of the abject U.S. intellectual property infringement, devalues U.S. human lives and U.S. civil rights, for usurping the U.S. Judiciary's federal jury verdict trial judgment finding that the adjudged alien rank infringers status renders them to be without authority to "make, use, offer to sell, and/or sell" (see 35 U.S.C. § 271(a)) the subject foreign imported adjudged rank infringing "Prius II," that is a some 3000lbs. weighing imitation of the braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and imitation of the steering disclosed in **HYPERDRIVE™**. This furthers the adjudged rank infringers' importation of those adjudged infringing articles that are herein alleged to be also counterfeit marked and extrinsically fraudulently identified as U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor vehicle Safety Standard ("FMVSS") comporting passenger cars/motor vehicles to breach U.S. borders, for the adjudged alien rank infringers to distribute interstate for commercial advantage and/or private financial gain, under color of feigned remedial domestic motor vehicle defect recalls, that proximately causes risk of serious bodily injury and/or death of U.S. citizens, after the JPML's April 9, 2010 creation of MDL No. 2151 and beyond. The conflict suggests disempowerment of the U.S. Judiciary's federal jury trial verdict judgments, appeals and cross appeals by the U.S. Court of Appeals for the Federal Circuit, the authority vested in the U.S. Judicial Panel on Multidistrict Litigation, and the authority vested in the Chief Justice of the Supreme Court of the United States, as authorized to appoint the panel members that assign the transferee judge, pursuant to the 1968 Multidistrict Litigation Act . . .

34. The only entity that the Congress authorized to issue orders of any kind in the 1968 Multidistrict Litigation Act and rules promulgated thereunder was the *panel*, not the *panel's* assigned transferee judge. This conflict involves every appearance of a federal adjudication by a 28 U.S.C. § 1407(b) depositions delimited transferee judge, without Congressional authority to adjudicate anything, as tendered in a federal multidistrict litigation venue, with no U.S. Art. I and Art. III or 28 U.S.C. § 1407 authority to tender any federal judgment of any kind on the merits, yet who has done so *ultra vires* anyway and inexplicably denied Plaintiff, Ms. Richard's, clear requests to amend complaint and to register, *for enforcement of the prior federal jury verdict tried patent infringement*, true certified hard copies of the judgments, as also submitted on CD-ROM in accordance with procedures at the United States Central District of California.

35. Indeed *Caterpillar Tractor Co. v. International Harvester Co.*, 120 F.2d 82, 86 (3d Cir. 1941) established that "[T]he matter here is one between two courts of the same sovereignty, the United States of America. If one federal court failed to give effect to the judgment of another federal court the Supreme Court of the United States, as the head of the judicial system of the United States would compel it do so because "they are many members yet but one body." This situation involves one federal trial court jury verdict judgment on the merits, versus an improper multidistrict litigation venue lacking subject matter jurisdiction, lacking personal jurisdiction, and lacking Congressional and statutory authority to adjudicate anything issuing class certification and final settlement order(s) that are not on the merits for the alien Defendants' extrinsic fraud.

36. Patent law in 1891 was governed by the 1870 Patent Act, which provided at Section 56:

SEC. 56. *And be it further enacted*, That a writ of error or appeal to the Supreme Court of the United States shall lie from all judgments and decrees of any circuit court, or of any district court exercising the jurisdiction of a circuit court, or of the supreme court of the District of Columbia or of any Territory, in any action, suit, controversy, or case, at law or in equity, touching patent rights in the same manner and under the same circumstances as in other judgments and decrees of such circuit courts, without regard to the sum or value in controversy."

37. For such a massive conflict of laws in inconsistent federal judgments between the United States District Court for the Eastern District of Texas and the United States Judicial Panel on

Multidistrict Litigation, regarding the truly foreign imported adjudged rank U.S. Patent 5,343,970 "infringing Prius II" at issue, the proper venue for the above entitled action at this time is a quorum of the full Supreme Court of the United States.

JURISDICTION

38. The federal courts have jurisdiction for intentional federally protected intellectual property violations of the prohibition at U.S. CONST. Art. I, § 8, cl. 8, in accordance with U.S. CONST. Art. I and Art. III, § 2, and rules promulgated thereunder including but not limited to 28 U.S.C. § 1338(a), 28 U.S.C. § 1331, *Fed. R. Civ. P.* Rule 4(k)(2) for alienage diversity jurisdiction. This court has jurisdiction under 28 U.S.C. § 1331 for federal questions under 18 U.S. Code §§ 1961-68 (Racketeer Influenced and Corrupt Organizations ("RICO") Act) claims. This Court has jurisdiction over state claims by the doctrine of personal pendant jurisdiction and 28 U.S.C. § 1367. Plaintiff, Ms. Richard's, citizenship differs from the adjudged alien rank infringer Defendants TMC, TMS, and TMNA, and their subsidiaries and/or affiliates in privity, of and/or by their counsel(s), to also authorize original jurisdiction under 28 U.S.C. § 1332.

TIMELINESS CONSIDERATIONS

39. The "limited times" referenced in U.S. Const. Art. I, § 8, cl. 8 was never specified by *The Congress*, that is The Continental Congress framers of The Constitution of the United States of America. The interval of federal protection of the granted U.S. Letters Patent 5,343,970 is approximate twenty years:

Year 1: 09/21/1992 - 09/21/1993	Year 11: 09/21/2002 - 09/21/2003
Year 2: 09/21/1993 - 09/21/1994	Year 12: 09/21/2003 - 09/21/2004
Year 3: 09/21/1994 - 09/21/1995	Year 13: 09/21/2004 - 09/21/2005
Year 4: 09/21/1995 - 09/21/1996	Year 14: 09/21/2005 - 09/21/2006
Year 5: 09/21/1996 - 09/21/1997	Year 15: 09/21/2006 - 09/21/2007
Year 6: 09/21/1997 - 09/21/1998	Year 16: 09/21/2007 - 09/21/2008
Year 7: 09/21/1998 - 09/21/1999	Year 17: 09/21/2008 - 09/21/2009
Year 8: 09/21/1999 - 09/21/2000	Year 18: 09/21/2009 - 09/21/2010
Year 9: 09/21/2000 - 09/21/2001	Year 19: 09/21/2010 - 09/21/2011
Year 10: 09/21/2001 - 09/21/2002	Year 20: 09/21/2011 - 09/21/2012

40. The adjudged alien infringer Defendants TMC, TMS, and TMNA were notified by the 2006 *Paice I* judgment that they were utterly without authority to "make, use, offer to sell, and/or sell" the subject adjudged rank "infringing Prius II," or 2009 Prius with HYBRID SYNERGY DRIVE, pursuant to U.S. law on U.S. soil under the jurisdiction of the U.S. Const. Art. I and Art III authorized U.S. Judiciary. The *Paice I*, *Paice II*, and *Paice III* judgment(s) are applicable to those in privity with the adjudged alien infringer Defendants TMC, TMS, and TMNA, including but not limited to the above named Defendants TEMA, DENSO, AISIN, AISIN-AW, TICO, TTCO, TOYOFUJI, and MITSUI, of and by their counsel(s).

42. The collective foregoing Defendants apparently had an affirmative duty of care to the Plaintiff, Ms. Richard, and the class of people known as U.S. licensed motor vehicle operators and/or U.S. consumers and/or frequenters of The U.S. Dwight D. Eisenhower National System of Interstate and Defense Highways, among others, upon actual notice of another's federally protected U.S. Patent 5,343,970 rights. "That affirmative duty normally includes obtaining legal opinion from competent counsel *before* continuing to infringe. Notably, willful infringement has been clearly found despite the presence of a legal opinion where the opinion was either ignored or found incompetent. *See Read Corp. v. Portec, Inc.*, 970 F.2d 816, 23 U.S.P.Q.2d 1426 (Fed. Cir. 1992)." With the aforesaid August 16, 2006, dated federal jury trial verdict judgment rendered against them, the Defendants had *actual* notice that the foreign imported adjudged "infringing Prius II" infringed the federally protected U.S. Patent 5,343,970. Yet, the Defendants willfully, recklessly, voluntarily, and intentionally disregarded the affirmative duty of care and continued to "make, use, offer to sell, and/or sell" the adjudged infringing foreign imported devices, including the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE.

43. The U.S. International Trade Commission ("ITC") conducted an Investigation 337-688 of the foreign imported subject adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE at issue, among other things, *in rem*. Attached hereto as **Exhibit 8** is a June 22, 2010 dated Notice of Determination and Commission Opinion, in which the federal Commissioners noted the identical

adjudged alien rank infringers' infringement in a footnote and then failed the ITC mandate at 19 U.S.C. § 1337 to issue exclusion orders against the some 3000lbs. weighing, foreign imported subject adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE. Because the ITC allowed the parties to the investigation to *subsequently* and therefore unconstitutionally reach a sealed settlement agreement, the public version of which is hereto attached as **Exhibit 9**, there may be unknown, concealed terms extending the federal protection effects of the U.S. Patent 5,343,970, for an unknown duration.

44. The timing of the ITC settlement agreement may constitute an illegal bargain for public policy reasons, for the factual federal *patent infringement* judgments against TMC, TMS, and TMA in the context of *Caterpillar* prior to the ITC footnoted ascertainment of the *patent infringement* having already occurred prior thereto. See *Degnan*, Federalized Res Judicata (1976) quoting *Embry v. Palmer*, 107 U.S. 3 (1882): "The power to prescribe what effect shall be given to the judicial proceedings of the courts of the United States is conferred by other provisions of the Constitution, such as those which declare the extent of the judicial power of the United States, which authorize all legislation necessary and proper for executing the powers vested by the Constitution in the government of the United States, or in any department or officer thereof, and which declare the supremacy of the authority of the national government within the limits of the Constitution." See also Restatement, Second, of Contracts § 178.

45. Holders of valid federally protected U.S. Letters Patents are also within their rights to seek an extension of the patent term of federal protection from the Congress. See "*An Act to enable Ann M. Rodefer, Administratrix of Joseph Rodefer, deceased, to make Application for the Extension of Letters-Patent for an Improvement in Bedstead Fastenings.*" (January 30, 1971). This may or may not be applicable to the *federally protected* U.S. Patent 5,343,970.

46. Furthermore, as promulgated under U.S. CONST. Art. 1, § 8, cl. 8, the third congress (1793) passed, "*An Act to promote the progress of useful Arts; and to repeal the act heretofore made for that purpose...*," on February 21, 1793 at Chapter 9, Section 4 of which states, "That it

shall be lawful for any inventor, his executor or administrator to assign the title and interest in the said invention...." By this premise, the adjudged alien rank infringers again never held any title in the foreign imported adjudged rank infringing 2009 Prius to convey to anyone on Uniform Commerical Code defined "sale."

47. The forty-first congress (1870) saw fit to pass "*An Act to revise, consolidate, and amend the Statutes relating to Patents and Copyrights*," which provided at Section 55, "That all actions, suits, controversies, and cases arising under the patent laws of the United States shall be originally cognizable, as well in equity as at law, by the circuit courts of the United States . . . but all actions shall be brought during the term for which the letter-patent shall be granted or extended, or within six years after the expiration thereof." Six years after 09/21/2012 is 09/21/2018:

Year 1: 09/21/2012 - 09/21/2013	Year 4: 09/21/2015 - 09/21/2016
Year 2: 09/21/2013 - 09/21/2014	Year 5: 09/21/2016 - 09/21/2017
Year 3: 09/21/2014 - 09/21/2015	Year 6: 09/21/2017 - 09/21/2018

48. The Defendants have engaged in an abundance of fraudulent concealment. The first paragraph of the NHTSA "Recommended best Practices for Importers of Motor Vehicles and Motor Vehicle Equipment" says that "Fabricating manufacturers (i.e., the actual assemblers) and importers of motor vehicles and motor vehicle equipment have duties as manufacturers under the vehicle Safety Act." However, for the judgment against them in *Paice I*, TMC, TMS, and TMNA knew or ought to have known that the adjudged "infringing Prius II" was neither motor vehicle, motor vehicle equipment, nor anything lawful under the United States Code of Laws, pursuant to 35 U.S.C. § 271 (a) and *Novamedix*, and that they were without authority to "make, use, offer to sell, and/or sell" any such thing.

49. However, the adjudged alien rank infringers TMC, TMS, and TMNA, those in privity with them, of and/or by their counsel(s) intentionally continued to infringe in *fraudulent concealment* by extrinsically fraudulently "self-certifying" the foreign imported adjudged rank "infringing Prius II" as a NHTSA and FMVSS compliant passenger car/motor vehicle, when it was no such thing, for the patent infringement. The fraudulent concealment caused Plaintiff, Ms. Richard, to initially complain

of motor vehicle defect for loss of steering, braking (and skid-control regulated by the braking system), that occurred with no airbag deployment in the subject 2009 Prius, to INSD. In reality, everything that failed in the 2009 Prius II was merely imitating the non-motor vehicle delineated braking, acceleration, and flow of electrical energy disclosed in the U.S. Patent 5,343,970 claims 11 and 39, that TMC, TMS, and TMNA were without authority to "make, use, offer to sell, and/or sell."

50. In *Gabelli v. SEC*, slip op. at 3, 568 U.S. 442 (2013), the Supreme Court of the United States provides:

"a right accrues when it comes into existence." *United States v. Lindsay*, 346 U. S. 568, 569 . . . the "standard rule" is that a claim accrues "when the plaintiff has 'a complete and present cause of action.' " *Wallace v. Kato*, 549 U. S. 384, 3 This understanding advances "the basic policies of all limitations provisions: repose, elimination of stale claims, and certainty about a plaintiff's opportunity for recovery and a defendant's potential liabilities." *Rotella v. Wood*, 528 U. S. 549, 555. Pp. 4-5.

[However, there is a discovery rule doctrine that is] an "exception" to the standard rule, and delays accrual "until a plaintiff has 'discovered'" his cause of action. *Merck & Co. v. Reynolds*, 559 U. S. 633 (2010). It arose from the recognition that "something different was needed in the case of fraud, where a defendant's deceptive conduct may prevent a plaintiff from even *knowing* that he or she has been defrauded." *Ibid*. Thus "where a plaintiff has been injured by fraud and 'remains in ignorance of it without any fault or want of diligence or care on his part, the bar of the statute does not begin to run until the fraud is discovered.' " *Holmberg v. Armbrrecht*, 327 U. S. 392, 397.

To the extent that Plaintiff, Ms. Richard, alleges being defrauded and invokes sections of the 1870 Patent Act on behalf of herself and the United States government to recover losses, *Exploration Co. v. United States*, 247 U. S. 435 also applies.

51. Plaintiff, Ms. Richard, humbly submits that she is not a lawyer, that a telephone voice purporting to be the Honorable Selna disclaimed being in any position to appoint her counsel, and that she therefore does not know the extent to which she has been defrauded and does not know exactly what kind of lawyer to seek.

52. History does record that after the remaining nearly eight and a half years long Revolutionary War, on August 18, 1787, at a certain Continental Congress Convention, [<https://www.loc.gov/resource/mss31021a.01x01/?sp=411&r=0.105,0.119,0.87,0.595,0>]. It is said that Mr.

James Madison proposed adding powers to those of an ideal General Legislature to include, among other things:

“to grant charters of incorporation in cases where the public good may require them, and the authority of a single State may be incompetent”
“to establish to literary authors their copyrights for a limited time”
“to establish an university”
“to encourage by premiums & provisions, the advancement of useful knowledge and discoveries”

Madison’s journal furthers that,

“These propositions were referred to a Committee of detail which had prepared the Report and at the same time the following which are moved by Mr. Pickney: in both cases unanimously.

“To establish seminaries for the promotion of literature and the arts & sciences”
“To grant charters of incorporation”
“To grant patents for useful inventions”
“To secure to Authors exclusive rights for a certain time”
“To establish public institutions, rewards and immunities for the promotion of agriculture, commerce, trades and manufactures”...”

53. The foregoing was condensed into the sole prohibition that lies at U.S. CONST. Art. I, § 8, Cl. 8, as ratified by The Congress in 1788. By Plaintiff's inductive reasoning, the sole word "**Progress**" denotes the United States capacity to (1) form new U.S. nationwide businesses, (2) establish U.S. universities, (3) establish U.S. seminaries, (4) fund existing U.S. universities and seminaries, and therefore fund the primary and secondary schools that universities and seminaries nourish, for "encouraging premiums and provisions for the advancement of useful knowledge and discoveries, (5) promote U.S. agriculture, commerce, trades, and manufactures, and (6) establish U.S. public institutions, rewards and immunities for the promotion of agriculture, commerce, trades, and manufactures. Exemplification of what is **useful** is explicit in the 78th Congress' December 20, 1944, passed "*An Act To assist in the internal development of the Virgin Islands by the undertaking of useful projects therein, and for other purposes*" [H. R. 5029] P.L. 510, that delineates allocated funding for (1) Hospital facilities, (2) Sanitation and fire-protection facilities, including sewer and water system, (3) Intercepting sewer system including sewage treatment and disposal, (4) water

supply facilities, (5) schools and educational facilities, (6) water-front highway, sea wall, and harbor facilities, (7) highways and roads, (8) street improvements, including storm-water drainage, (9) engineering surveys, (10) improvements to and construction of public buildings, (11) prison facilities, (12) recreational facilities, (13) telephone and radio communication facilities, (14) malarial control, (15) hospital, electric power plant, and improvements to administration building, (16) abattoir and cooling plant facilities, (17) public market facilities . . . and the salaries and pensions of the workers of the foregoing. To be clear, in making this filing, I am doing the best that I can to take issue with the adjudged alien rank infringers' intentional acts to violate the collective enumerated foregoing *everything* that exists within the continental United States borders as my surrounding environment, while proximately causing serious injury to my bodily person, my property, and my other damages for consideration at a proper *venue*, with my rights under 28 U.S.C. § 1915 fully intact, to request assistance and/or representation for all that I just said.

54. The holder of the granted U.S. Letters Patent 5,343,970 also registered a HYPERDRIVE™ word mark trademark. A true copy of the U.S. Patent and Trademark Office's ("USPTO") Trademark Official Gazette entries of October 1, 2002, for HYPERDRIVE™, as accessed from the USPTO website are hereto attached as **Exhibit 10**. The adjudged alien rank infringers' use of **HYBRID SYNERGY DRIVE** on the subject foreign imported, adjudged, rank U.S. Patent 5,343,970 "infringing Prius II" appears to infringe the **HYPERDRIVE™** word mark. HYPERDRIVE™ was presented with materials disclosing the U.S. Patent 5,343,970 to both houses of Congress comprising the U.S. Legislature; HYPERDRIVE™ was presented with U.S. Patent 5,343,970 at a December 6, 2001, Corporate Average Fuel Economy ("CAFE") committee hearing at the U.S. Senate and likewise presented at a June 26, 2002, FreedomCAR committee hearing at the U.S. House of Representatives.

55. Planet Earth is a closed system in which neither matter nor energy is created or destroyed, only transformed. Experts at the December 6, 2001, Senate hearing established that genuine U.S. Patent 5,343,970 product weighs more, tacitly posing the prospect of making more

passes on less fuel that would tears the roads up faster and release more heat for the kinetic energy of movement and friction. The subject imitation, foreign imported, adjudged rank infringing 2009 Prius weighs 450lbs more than Plaintiff's 1986 Honda DX, that at least has a metal exterior to absorb impact for passenger protection, instead of the adjudged imitation's ramie. Conserved work and energy involved in operating the adjudged rank infringing, some 450lbs. heavier 2009 Prius actually releases more heat into the atmosphere to worsen global warming than operation of the true metal encased 1986 hatchback motor vehicle.

56. Therefore, at the heart of the above entitled action is the infringement of the *federally protected* U.S. Letters Patent 5,343,970, that may or may not have expired, under extended terms of a concealed settlement agreement brokered at the ITC in violation of titles 19 and 35, among others, of The United States Code of Laws, about which Plaintiff, Ms. Richard, is within her rights to complain for her serious bodily injuries, competitive injuries, damages, and other damages for an interval of six years after the expiration of the patent in accordance with most recently effected 1891 patent venue law, as tolled for fraudulent concealment by the adjudged alien rank infringers that were without authority to "make, use, offer to sell, and/or sell the adjudged rank "infringing Prius II."

INTRODUCTION

Underlying Constitutional Violation

57. In the early half of the eighteenth century Indiana ratified the Continental Congress' U.S. Constitution, which provides at Art. I, § 8, cl. 8:

"We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

ARTICLE I.

. . .

Section 8. The Congress shall have Power . . . To promote the **Progress** of Science and **useful Arts**, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries . . ."

58. The U.S. Congress has since periodically promulgated rules thereunder as *Acts for the*

Useful Arts dating from as early as 1790, through codification of Titles 19 and 35 of The United States Code of Laws, among other things.

59. By 2006 federal jury trial verdict judgment, the adjudged alien rank infringers TMC, TMS, and TMNA were fully apprised of having violated Title 35 of the United States Code by infringing U.S. Letters Patent 5,343,970 for manufacturing some 3000lbs. weighing Prius with HYBRID SYNERGY DRIVE articles in Aichi Prefecture Japan that were federal jury trial verdict judgment adjudged as the "infringing Prius II." Instead of ceasing and desisting the patent infringement, upon full awareness of the federal jury factually determined violation of a U.S. federal intellectual property prohibition, TMC, TMS, and TMNA undertook *in strict liability* to continue violating that prohibition throughout appeal and cross appeal that upheld the federal jury verdict judgment of infringement and throughout remand that upheld the same. Adjudged alien rank infringers TMC, TMS, and TMNA, of and by their counsel and those entities in privity with them, were in full possession of originals of the Exhibits 2, 3, 4, and 5 that are hereto attached.

60. Adjudged alien rank infringers TMC, TMS, and TMNA, of and by their counsel, thereby subsequently manufactured identical "Prius with HYBRID SYNERGY DRIVE" named, foreign imported, rank U.S. Letters Patent 5,343,970 infringing, and some 3000lbs. weighing articles that were likewise counterfeit marked and extrinsically fraudulently "self-certified" as U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standards ("FMVSS") comporting passenger car(s)/motor vehicle(s), to breach U.S. borders and distribute them interstate for TMC, TMS, and TMNA's commercial advantage and/or private financial gain in willful, knowing, and intentionally reckless disregard of all U.S. laws, U.S. infrastructure known as The Dwight D. Eisenhower National System of Interstate and Defense Highways, and U.S. human life, including Plaintiff's, for the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE at issue.

61. Prior thereto the adjudged alien rank infringers TMC, TMS, and TMNA, of and by their counsel and those in privity with them, knew that (1) they were proximately causing U.S. motor

vehicle operators a concealed and extreme risk of serious bodily injury and/or death in foreign imported, some 3000lbs. weighing Prius with **HYBRID SYNERGY DRIVE** articles embodying mere imitation of U.S. Letters Patent 5,343,970 claims 11 and 39 disclosed U.S. *non*-motor vehicle braking and acceleration, among other things, and mere imitation of **HYPERDRIVE™** disclosed steering, that (2) TMC, TMS, and TMNA were appraised that the U.S. NHTSA was investigating under color of motor vehicle defect for reports of failures of such undisclosed imitation that was proximately causing property losses, injuries, and/or deaths, knowing that (3) it was injurious to NHTSA to do so with no lawful jurisdiction over such foreign imported adjudged rank infringing imitation, at the same time that TMC, TMS, and TMNA were aware that (4) TMC, TMS, and TMNA had no title and never had any title in any such Prius with **HYBRID SYNERGY DRIVE** articles to transfer to anyone in accordance with Uniform Commercial Code sale, because (5) TMC, TMS, and TMNA were federal jury verdict trial judgment adjudged alien rank infringers that were without authority to "make, use, offer to sell and/or sell" any such foreign imported adjudged rank infringing Prius with HYBRID SYNERGY DRIVE articles, which were wholly incapable of ever being any U.S. product, motor vehicle, hybrid electric vehicle, or Toyota vehicle, defective or otherwise.

62. The foregoing facts were material to the Plaintiff, Ms. Richard, because Ms. Richard would not have driven the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE at issue or any other if she had been apprised of its true U.S. patent infringing status.

63. The 2009 *Paice III* remand ruling against the adjudged alien rank infringers TMC, TMS, and TMNA explicitly noted *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007), which case at 1368-1371 establishes that "Because patent infringement is a strict liability offense, the nature of the offense is only relevant in determining whether enhanced damages are warranted . . . we have held that an award of enhanced damages requires a showing of willful infringement . . . [P]roof of willful infringement permitting enhanced damages requires at least a showing of objective recklessness."

64. The defendants to the above entitled action were in privity with TMC, TMS, and TMNA

and of and/or by counsel, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970 claims 11 and 39 in October of 2008 by manufacturing the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE in Aichi Prefecture Japan, counterfeit marking its rear door, power control unit housing, and documentation with HYPERDRIVE™ infringing HYBRID SYNERGY DRIVE counterfeit and/or spurious marks, and extrinsically fraudulently "self-certifying" the whole as a U.S. NHTSA and U.S. FMVSS passenger car to breach U.S. borders and distribute interstate for commercial advantage and/or private financial gain, which proximately caused Plaintiff Ms. Richard risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages on December 8, 2013, for the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE's 3000lbs. of imitation braking, imitation acceleration, and imitation steering, and imitation airbag deployment collectively failing on U.S. Interstate-65 near mile marker 115.2, when TMC, TMS, and TMNA knew that they were without authority to "make, use, offer to sell, and/or sell" any such thing, for which the defendants to the above entitled action are jointly and severally liable to Ms. Richard for the following causes of action:

U.S. CONST. ART. I, § 8, cl. 8 VIOLATIONS

CLAIM 1

(PATENT INFRINGEMENT - Intentional Violation of U.S. Const. Art. I, § 8, cl. 8, as Willful Infringement of U.S. Letters Patent 5,343,970 claims 11 and 39 as an Exceptional Case)

65. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 64 of this Complaint.

66. This is an action for the intentional violation of U.S. Const. Art. I, § 8, cl. 8 by willful infringement of U.S. Letters Patent 5,343,970 claims 11 and 39, as an exceptional case.

67. TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI, in privity with the adjudged alien rank infringer TMC and TMS and TMNA, of and by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to

"make, use, offer to sell, and/or sell" the foreign imported adjudged rank infringing "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970 claims 11 and 39, by manufacturing by "making, using, offering to sell, and/or selling" in the United States the subject foreign imported undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," that proximately caused Plaintiff Ms. Richard to suffer risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injuries, property damages, and other damages for which the defendants are jointly and severally liable to Plaintiff Ms. Richard, as the person aggrieved in the above entitled action.

68. The adjudged alien rank infringers will continue such infringement, unless they are collectively enjoined by the Court from doing so and a review of U.S. ITC Investigation 337-688 is carried out by the U.S. Court of Appeals for the Federal Circuit, pursuant to 19 U.S.C. § 1337(c) that directs the ITC to execute its mandate to issue exclusion orders against all applicable foreign imported adjudged rank infringing Prius with HYBRID SYNERGY DRIVE articles *in rem* and to issue cease and desist orders *in personam*, as also enforceable by the aggrieved Plaintiff in a federal district court, against the collective defendants.

CLAIM 2

(INDUCED PATENT INFRINGEMENT - Intentional Violation of U.S. Const. Art. I, § 8, cl. 8, by willfully inducing Infringement of U.S. Letters Patent 5,343,970 claims 11 and 39)

69. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 68 of this Complaint.

70. TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI, in privity with the adjudged alien rank infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and/or by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly,

voluntarily, and intentionally offer for sale to U.S. motor vehicle industry U.S. licensed motor vehicle operator users the identical undisclosed subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," and thus actively induce infringement of U.S. Patent 5,343,970 claims 11 and 39, which by privity includes inducing Plaintiff Ms. Richard to infringe and suffer risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages on December 8, 2013, in the nearly 3000lbs. weighing subject foreign imported undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE as a result thereof, for which the defendants are jointly and severally liable to her.

71. The adjudged alien rank infringers will continue inducing such infringement, unless they are collectively enjoined by the Court from doing so and a review of U.S. ITC Investigation 337-688 is carried out by the U.S. Court of Appeals for the Federal Circuit, pursuant to 19 U.S.C. § 1337(c) that directs the ITC to execute its mandate to issue exclusion orders against all applicable foreign imported adjudged rank infringing Prius with HYBRID SYNERGY DRIVE articles *in rem* and to issue cease and desist orders *in personam*, as enforceable by the aggrieved Plaintiff in a federal district court, against the collective defendants also.

CLAIM 3

(INDUCED PATENT INFRINGEMENT - Intentional Violation of U.S. Const. Art. I, § 8, cl. 8, as Induced Infringement of U.S. Letters Patent 5,343,970 claims 11 and 39)

72. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 71 of this Complaint.

73. Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI, in privity with the adjudged alien rank infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally "self-certify" the identical undisclosed subject foreign

imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," to be a U.S. NHTSA and U.S. FMVSS comports passenger car/motor vehicle to actively induce infringement of U.S. Patent 5,343,970 claims 11 and 39, including but not limited to inducing Plaintiff Ms. Richard to infringe by applying her U.S. motor vehicle operator license to use the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, in the manner of a true U.S. NHTSA and U.S. FMVSS comports passenger car/motor vehicle, by driving it on Interstate 65 near mile marker 115.5 in Indianapolis, Indiana, on December 8, 2013, which proximately caused her to suffer risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, for which the defendants are jointly and severally liable to her.

74. The adjudged alien rank infringers will continue inducing such infringement, unless they are collectively enjoined by the Court from doing so and a review of U.S. ITC Investigation 337-688 is carried out by the U.S. Court of Appeals for the Federal Circuit, pursuant to 19 U.S.C. § 1337(c) that directs the ITC to execute its mandate to issue exclusion orders against all applicable foreign imported adjudged rank infringing Prius with HYBRID SYNERGY DRIVE articles *in rem* and to issue cease and desist orders *in personam*, as enforceable by the aggrieved Plaintiff in a federal district court, against the collective defendants also.

CLAIM 4-6

(**FALSE MARKING** - Intentional Violation of U.S. Const. Art. I, § 8, cl. 8, as Willful Infringement of the **HYPERDRIVE™** "word of like import" with U.S. Letters Patent 5,343,970 claims 11 and 39, on the infringing 2009 Prius, for bearing adjudged alien rank infringers' HYBRID SYNERGY DRIVE marks)

75. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 74 of this Complaint.

76. After the U.S. Congress failed to pass domestic trademark legislation in the 1860s, the U.S. Senate approved a U.S. President negotiated treaty with Russia requiring reciprocal U.S. prosecution of any U.S. infringement of Russian trademarks. It was then that the U.S. Congress moved to implement regulations for enforcement of the U.S. - Russia treaty's trademark terms, and

those of further U.S. Senate approved, trademark enforcement contingent French and Belgian treaties, by promulgating 1870 patent, trademarks, and copyright act(s) and subsequent revised statutes, under U.S. Const. Art. I, § 8, cl. 8.

77. In 1879 *Trademark Cases*, the Supreme Court of the United States struck down the 1870 trademark act and subsequent revised trademark statutes as unconstitutional, without any apparent disclosure of, indicative deference to, or even awareness of the Russian, French, and Belgian treaties in effect, and with no such curtailment of the patent laws.

78. Therefore applicable U.S. 1891 Patent venue law did recognize that on August 29, 1842, the twenty-seventh Congress had passed *"An Act in addition to an act to promote the progress of the useful arts, and to repeal all acts and parts of acts heretofore made for that purpose"* provided at Sections 3 and 5:

"SEC. 3. *And be it further enacted*, That any citizen or citizens, or alien or aliens, having resided one year in the United States and taken the oath of his or their intention to become a citizen or citizens who by his, her, or their own industry, genius, efforts, and expense, my have invented or produced any new and original design for a manufacture, whether of metal or other material or materials, or any new and original design for the printing of woollen, silk, cotton, or other fabrics, or any new and original design for a bust, statute, or bas relief or composition in alto or basso relievo, or any new and original impression or ornament, or to be placed on any article of manufacture, the same being formed in marble or other material, or any new and useful pattern, or print, or picture, to be either worked into or worked on, or printed or painted or cast or otherwise fixed on, any article of manufacture, or any new and original shape or configuration of any article of manufacture not known or used by other before his, her, or their invention or production thereof, and prior to the time of his, her, or their application for a patent therefor, and who shall desire to obtain an exclusive property or right therein to make, use, and sell and vend the same, or copes of the same, to others, by them to be made, used, and sold, may make application in writing to the Commissioner of Patents expressing such desire, and the Commissioner, on due proceedings had, may grant a patent therefor, as in the case now of application for a patent . . .

SEC. 5. *And be it further enacted*, That if any person or persons shall paint or print, or mould, cast, carve, or engrave, or stamp, upon any thing made, used, or sold, by him, for the sole making or selling which he hath not or shall not have obtained letters patent, the name or any imitation of the name of any other person who hath or shall have obtained letters patent for the sole making and vending of such thing, without consent of such patentee, or his assigns or legal representatives; or if any person, upon any such thing not having been purchased, from the patentee, or some person who purchased it from or under such patentee, or not having the license or consent of such patentee, or his assigns or legal representatives, shall write, paint, print, mould, cast, carve, engrave, stamp, or otherwise make or affix the word "patent," or the words "letters patent," or the

word "patentee," or any word or words of like kind, meaning, or import, with the view or intent of imitating or counterfeiting the stamp, mark, or other device of the patentee, or shall affix the same or any word, stamp, or device, of like import, on any unpatented article, for the purpose of deceiving the public, he, she, or they, so offending, shall be liable for such offence, to a penalty of not less than one hundred dollars, with costs, to be recovered by action in any of the circuit courts of the United States, or in any of the district courts of the United States, having the powers and jurisdiction of a circuit court; one half of which penalty, as recovered, shall be paid to the patent fund, and the other half to any person or persons who shall sue for the same."

79. The adjudged alien rank infringer TMC's **HYBRID SYNERGY DRIVE** mark infringes nine of the ten **HYPERDRIVE™** letters as represented in with U.S. Patent 5,343,970 claims 11 and 39 to both houses of the U.S. Congress, the U.S. Senate on December 6, 2001 and the U.S. House of Representatives in 2002 in connection with *federally protected* U.S. Patent 5,343,970 disclosed intellectual property. **HYPERDRIVE™** was, thus, a *de facto* "new and original impression . . . to be printed . . . on, . . . any new and original shape or configuration of any article of manufacture not known or used by others . . . prior to the time of his, her, or their application of a patent therefor, and who shall desire to obtain and exclusive property or right therein to make, use, and sell and vend the same or copies of the same, to others, by them to be made, used, and sold . . ."

80. Applicable U.S. 1891 Patent venue law did, further recognized that on July 8, 1870, the forty-first Congress passed "*An Act in addition to "An Act to revise, consolidate, and amend the Statutes relating to patents and Copyrights,"*" ("1870 patent act"), which at Section 71 did simplify Section 3 of the foregoing 1842 act by providing:

"SEC. 71. *And be it further enacted,* That any person who, by his own industry, genius, efforts, and expense, has invented or produced any new and original design for a manufacture, bust, statue, alto-relievo, or bas-relief; any new and original design for the printing of wool[en, silk, cotton, or other fabrics; any new and original impression, ornament, pattern, print, or picture, to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture; or any new, useful, and original shape or configuration of any article of manufacture, the same not having been known or used by others before his invention or production thereof, or patented or described in any printed publication, may, upon payment of the duty required by law, and other due proceedings had the same as in cases of inventions or discoveries, obtain a patent therefor."

81. Before sections 77-84 of the 1870 patent act that are the "trade-mark" laws that the Supreme Court of the United States ruled unconstitutional, the 1870 patent act simplified section 5 of the foregoing 1842 act by providing at section 76:

"SEC. 76. *And be it further enacted*, That all the regulations and provisions which apply to the obtaining or protection of patents for inventions or discoveries, not inconsistent with the provisions of this act, shall apply to patents for designs."

82. It is sections 55 of the 1870 patent act that speak to protection of patents in 1891 patent venue law by providing:

"SEC. 55. *And be it further enacted*, That all actions, suits, controversies, and cases arising under the patent laws of the United States shall be originally cognizable, as well in equity as at law, by the circuit courts of the United States, or any district court having the powers and jurisdiction of a circuit court, or by the supreme court of the District of Columbia, or of any Territory; and the court shall have power, upon bill in equity filed by any party aggrieved, to grant injunctions according to the course and principles of equity, to prevent the violation of any right secured by patent, on such terms as the court may deem reasonable; and upon a decree being rendered in any such case for an infringement, the *claimant* [complainant] shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby, and the court shall assess the same or cause the same to be assessed under its direction, and the court shall have the same powers to increase the same in its discretion that are given by this act to increase the damages found by verdicts in actions upon the case; but all actions shall be brought during the term for which the letters-patent shall be granted or extended, or within six years after the expiration thereof.

83. Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI, in privity with the adjudged alien rank infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and/or by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally "write, paint, print, mould, cast, carve, engrave, stamp, or otherwise make or affix the word" **HYBRID SYNERGY DRIVE** that infringes **HYPERDRIVE™** that, in light of the above stated Congressionally presented congruity with U.S. Patent 5,343,970, is a such "word or words of like kind, meaning, or import" as U.S. Patent 5,343,970, upon the unpatented subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," to wit:

<u>Count</u>	<u>Date of Manufacture /Importation</u>	<u>Counterfeit Device</u>	<u>Location of HYBRID SYNERGY DRIVE Counterfeit Mark on the Counterfeit Device</u>
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4	10/2008	2009 Prius with HYBRID SYNERGY DRIVE	On the Power Control Unit housing under the hood
5	10/2008	2009 Prius with HYBRID SYNERGY DRIVE	Rear Hatchback Door
6	10/2008	2009 Prius with HYBRID SYNERGY DRIVE	"Quick Reference Guide" Documentation

Table 1. False Marking Violations, pursuant to 1891 patent venue law.

while "not having the license or consent of such [federally protected U.S. Patent 5,343,970 granted] patentee, or his assigns or legal representatives" and did so "with the view or intent of imitating or counterfeiting the stamp, [**HYPERDRIVE™**] word mark, or other device of the [U.S. Patent 5,343,970] patentee . . . or any word or words of like kind, meaning, or import, with the view or intent of imitating or counterfeiting the stamp, mark, or other device of the patentee, or shall affix the same or any word, stamp, or device, of like import, on any unpatented article, for the purpose of deceiving the public," for which they are jointly and severally liable to Plaintiff, Ms. Richard, and the government of the United States of America.

84. Notably the April 17, 2009, dated memorandum opinion from the Eastern District of Texas indicates that some 20,000 offending Prius with HYBRID SYNERGY DRIVE articles were breaching U.S. borders per month. The 20,000 per month figure multiplies to 240,000 2009 Prius with HYBRID SYNERGY DRIVE articles per year. The three offending HYBRID SYNERGY DRIVE marks on each of 240,000 enumerated 2009 Prius' power control units, rear doors, and documentation multiplies to 720,000 false marking offenses in connection with the subject 2009 Prius with HYBRID SYNERGY DRIVE. The "penalty of not less than one hundred dollars, with costs, to be recovered by action in any of the circuit courts of the United States, or in any of the district courts of the united States, having the powers and jurisdiction of a circuit court; one half of which penalty, as recovered, shall be paid to the patent fund, and the other half to any person or persons who shall sue for the same" amounts to an aggregate of $720,000 \times \$100 = \72 million. [If the U.S. government sees fit to allow this, with respect to the patent fund, so be it. However, Plaintiff in the above entitled action with serious bodily injuries respectfully submits that year 1842 dollars were gold; \$100 in today's dollar metric per such underlying heinously ancient infraction is

insufficient; therefore, plaintiff respectfully submits that she is entitled to 150 pieces (one half of 300 pieces, as 100 pieces for each of the three HYBRID SYNERGY DRIVE marks on the subject foreign 2009 Prius with HYBRID SYNERGY DRIVE that proximately caused her) of U.S. originally minted 1842, Indian head gold dollars, fully intact with no holes and/or one hundred and fifty times the current market value of each such gold dollar, as represented by a reputable U.S. dealer of such genuine collectible Americana. Plaintiff represents that the other 35,999,850 pieces of "Plaintiff(s)" 1842 gold and/or its appraised value ought to be held in abeyance in the registry of the U.S. circuit court of competent jurisdiction in the above entitled action and/or the Supreme Court of the United States for the conflict of laws in inconsistent federal judgments, for other Plaintiff parties to likewise plea for relief in verifiable pleading(s) substantiated by duly issued law enforcement incident reports bearing seals, medical bills, insurance records, and/or the evidence of the like. If the U.S. government's stance is that its share ought to be likewise appreciated and/or adjusted for inflation, so be it.]

18 U.S. Code §§ 1961-1968 et seq., as of 2006 Violations

CLAIM 7

(*RACKETEERING* - codified at Title 18 U.S. Code Chapter 96 as 18 U.S.C. § 1961-1968)

85. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 84 of this Complaint.

86. Statute 18 U.S. Code § 1961(1)(B) provides that ""racketeering activity" means any act . . . indictable under any of the following provisions of title 18, United States Code: . . . section 1341 (relating to mail fraud), section 1343 (relating to wire fraud), . . . section 2320 (relating to trafficking in . . . counterfeit) . . . "

87. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI, in privity with the adjudged alien rank infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and/or by their counsel(s), (collectively the "Toyota Enterprise Defendants") are actually "any union or group of individuals

associated in fact although not a legal entity" (18 U.S. Code § 1961(4)) that collectively committed the aforesaid acts of racketeering activity as a "pattern of racketeering activity" (18 U.S. Code § 1961(5)) within the past ten years, on many different dates, and as separately defined acts of racketeering activity.

88. Statute 18 U.S. Code § 1961(3) provides that each of the Toyota Enterprise Defendants is a "person" as distinct from the foregoing enterprise to the extent that each represents itself to be domestically incorporated and/or foreign incorporated.

89. TMC wholly owns domestically incorporated adjudged rank infringers TMS and TMNA, and wholly owns TEMA, the latter three of which all have specific functions in service to TMC, for TMC having 100% voting interest in them, among others. TMC also heads a separately distinct Toyota Group ("Toyota") entity, a global enterprise, that does not list TMC, MITSUI, yet comprises TMC affiliates TICO and AISIN and DENSO, among others.

90. James Madison, framer of the U.S. Constitution wrote that a man has " . . . a property very dear to him in the safety and liberty of his person . . .," which applies to Plaintiff by the 14th Amendment that secures equal protection of the laws to the Plaintiff, Ms. Richard, as "posterity," "person," and "citizen" provided for by the U.S. Constitution.

91. Certain Defendants worked together as groups within the collective Toyota Enterprise Defendants to operate further criminal "enterprise(s)" (18 U.S. Code § 1961(4)), as distinct from the Toyota Enterprise that is district from the TMC, Toyota Group, TOYOFUJI, TTCO, and MITSUI conglomerate whole of its other corporate motor vehicle manufacturing, international shipping, and/or corporate international banking components, that violated Racketeer Influenced and Corrupt Organizations ("RICO") statutes 18 U.S. Code §§ 1962(b), 1962(c), and 1962(d) to engage in a pattern of "racketeering activity" (18 U.S. Code 1961(1)(B)) by said violations of 18 U.S. Code § 2320, 18 U.S. Code § 1341, and 18 U.S. Code § 1343 by conducting or participating, directly or indirectly, in the conduct of the affairs of the "enterprise" through a pattern of racketeering that proximately caused risk of death and actual irreparable serious bodily injury, irreparable competitive

medical career injury, property damages, and other damages, to the Plaintiff, Ms. Richard, for which the collective adjudged alien rank infringer defendants TMC, TMS, and TMNA, as a distinct 18 U.S.C. § 1962(b) violating "enterprise" within the Toyota Enterprise Defendants, are jointly and severally liable to her and for which the other defendants AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI are a cognizable 18 U.S.C. § 1962(c) violating "enterprise" within the Toyota Enterprise Defendants, that are also jointly and severally liable to her.

PREDICATE RACKETEERING ACTIVITY #1
(Violations of 18 U.S. Code § 2320 - Trafficking in Counterfeit)

CLAIM 8

(Trafficking in Goods and Knowingly using a Counterfeit Mark in Connection with Such Goods that Knowingly or Recklessly Causes or Attempts to Cause Serious Bodily Injury - Violations of Title 18, United States code, Section 2320(a)(1) and (b)(2)(A) as of 2006)

91. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 90 of this Complaint.

92. On or about October of 2008, in the Southern District of Indiana and elsewhere, TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel (s), did intentionally traffic in adjudged foreign imported rank "infringing Prius" with HYBRID SYNERGY DRIVE ("Prius") articles, that they willfully, recklessly, voluntarily, intentionally, and fraudulently "self-certified" as U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standard comporting ("FMVSS") passenger cars/motor vehicles, when they knew that it was a violation of the prohibition at U.S. CONST. Art. I, § 8, cl. 8 and rules promulgated thereunder including, but not limited to rules at Titles 19 and 35 of the United States Code of laws, for federal jury verdict trial judgment against them and against the "infringing Prius II," to which they equally knowingly used **HYBRID SYNERGY DRIVE** infringing word and/or dressed marks that are spurious and/or counterfeit and infringe nine of the ten letters in the **HYPERDRIVE™** word mark on and in connection with those Prius articles, by knowingly transporting, transferring,

and disposing of for their commercial advantage or private financial gain the subject 2006 adjudged, rank U.S. Patent 5,343,970 claims 11 and 39 infringing, nearly 3000lbs. weighing 2009 Prius with HYBRID SYNERGY DRIVE, bearing the said **HYBRID SYNERGY DRIVE** marks, that proximately caused risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, to the Plaintiff, Ms. Richard, for which the collective adjudged alien rank infringer defendants TMC, TMS, and TMNA, as a distinct 18 U.S.C. § 1962(b) violating "enterprise" within the Toyota Enterprise Defendants, are jointly and severally liable to her and for which the other defendants AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI are a cognizable 18 U.S.C. § 1962(c) violating "enterprise" within the Toyota Enterprise Defendants, that are also jointly and severally liable to her.

CLAIM 9-11

*(Trafficking in Labels, Patches, Stickers, Wrappers, Badges, Emblems, Medallions, Charms, Boxes, Containers, Cans, Cases, Hangtags, Documentation, or Packaging of any Type or nature, Knowing that a Counterfeit Mark has been Applied Thereto, the Use of which is Likely to Cause Confusion, to Cause Mistake, or to Deceive and that Knowingly or Recklessly Causes or Attempts to Cause Serious Bodily Injury - Violations of Title 18, United States code, Section 2320(a)(2) and (b)(2)(A) **as of 2006**)*

93. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 92 of this Complaint.

94. On or about October of 2008, in the Southern District of Indiana and elsewhere, the Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), did intentionally traffic in the spurious and/or counterfeit **HYBRID SYNERGY DRIVE** mark, that infringes nine of the ten letters in the **HYPERDRIVE™** word mark trademark presented to both houses of the U.S. Congress in connection with U.S. Patent 5,343,970, as applied to packaging of any Type or Nature that caused confusion, mistake, and deceit, as affixed to documentation and to 2006 federal jury verdict trial judgment adjudged foreign imported rank "infringing Prius II" articles that the Toyota Enterprise

Defendants willfully, recklessly, voluntarily, and intentionally "self-certified" as U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standard ("FMVSS") comporting passenger cars/motor vehicles, by affixing spurious/counterfeit **HYBRID SYNERGY DRIVE** to the subject 2006 adjudged, rank U.S. Patent 5,343,970 claims 11 and 39 infringing, nearly 3000lbs. weighing, 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," and its documentation as set forth below:

<u>Count</u>	<u>Date of Manufacture/Import</u>	<u>Counterfeit/Spurious Mark</u>	<u>Adjudged Rank Infringing Article on Which the Mark Appears</u>	<u>Location of the mark on the Adjudged rank Infringing Article</u>
9	October 2008	HYBRID SYNERGY DRIVE	2009 Prius	Power Control Unit Top
10	October 2008	HYBRID SYNERGY DRIVE	2009 Prius	Rear Hatchback Door
11	October 2008	HYBRID SYNERGY DRIVE	2009 Prius	Quick Reference Guide

Table 2. Violations of Title 18, United States Code, Section 2320 (a)(2) and (b)(2)(A)

and knowingly transporting, transferring, and disposing of for their commercial advantage or private financial gain the **HYBRID SYNERGY DRIVE** marks in and/or on the collective foreign imported adjudged rank infringing ensemble known as the 2009 Prius, that proximately caused risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, to the Plaintiff, Ms. Richard, for which the collective adjudged alien rank infringer defendants TMC, TMS, and TMNA, as a distinct 18 U.S.C. § 1962(b) violating "enterprise" within the Toyota Enterprise Defendants, are jointly and severally liable to her and for which the other defendants AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI are a cognizable 18 U.S.C. § 1962(c) violating "enterprise" within the Toyota Enterprise Defendants, that are also jointly and severally liable to her.

PREDICATE RACKETEERING ACTIVITY #2
(Violations of 18 U.S. Code § 1341 - Mail Fraud)

CLAIM 12-14

95. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 94 of this Complaint.

96. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), used the United States Postal Service ("USPS") to execute a scheme to defraud via mail fraud in the four years prior to the December 8, 2015 filed Complaint.

97. The Toyota Enterprise Defendants' scheme is calculated to willfully, recklessly, voluntarily, and intentionally deceive persons of reasonable prudence, comprehension, and compassion in order to part such persons from their money, induce them to surrender their legal rights, risk their lives, and then blame them for their own demise, unlike any known standard of fair play, honest dealings, an/or human ethics.

98. The scheme involves using the USPS to mail floor mat, accelerator pedal, steering intermediate extension shaft, and hybrid electric water pump recall notices and a combination warranty enhancement notice as set forth below:

Count	Date of Notice Delivery	Foreign Imported, Adjudged Rank U.S. Patent 5,343,970 claims 11 and 39 Infringing Device	Description of Mailing from Defendant TMS to take motor vehicle recall action for undisclosed adjudged rank infringing device manifestations without disclosing those manifestations as such or truly remedying them, as herein alleged statutory mail fraud under 18 U.S. Code § 1341
12	November 2012	2009 Prius with HYBRID SYNERGY DRIVE	UNDATED Toyota Recall No. 90L/90LG (NHTSA 09V388000) 2004-2009 Model Year Prius "Vehicles" [Prius II] Potential Floor Mat Interference with Accelerator Pedal SAFETY RECALL FOLLOW-UP NOTICE (URGENT)
13	November 2012	2009 Prius with HYBRID SYNERGY DRIVE	UNDATED (NHTSA 12V536000) 2004-2009 Model Year Prius "Vehicles" [Prius II] COT - Steering intermediate Extension Shaft (Phase 2) and COU - Hybrid Electric water Pump SAFETY RECALL NOTICE (Interim Notice)
14	January 2013	2009 Prius with HYBRID SYNERGY DRIVE	UNDATED 2004-2009 Model Year Prius "Vehicles" [Prius II] Combination Meter WARRANTY ENHANCEMENT NOTICE

Table 3. Violations of Title 18, United States Code, Section 1341

pursuant to the inapplicable U.S. National Traffic and Motor Vehicle Safety Act, that does not provide for the subject foreign imported adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent

5,343,970 claims 11 and 39 infringing 2009 Prius with **HYBRID SYNERGY DRIVE** ("Prius"), that the Toyota Enterprise Defendants were without authority to make, use, offer to sell, and/or sell" on U.S. soil under U.S. law, as the Prius was merely imitating the braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, merely imitating the steering disclosed in **HYPERDRIVE™**, and was consequently never a motor vehicle, hybrid electric vehicle, Toyota vehicle, or genuine product as purely faked imitation.

99. Nothing in the subject recall notices discloses that the Toyota Enterprise Defendants were without authority to make, use, offer to sell, and/or sell" the subject foreign imported adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing 2009 Prius with **HYBRID SYNERGY DRIVE** on U.S. soil under U.S. law and/or discloses the true remedy for that condition, while espousing acts to further consumers' use of such devices that are essentially worthless and that pose life threatening danger to them and to the U.S. public. Such fraudulent scheme was calculated by the Defendants, of and by their counsels, to intentionally target, confuse, deceive and defraud persons of reasonable prudence, extraordinary comprehension, and compassion that are U.S. licensed motor vehicle operators, including Plaintiff, Ms. Richard, in order to part such persons from their money, induce them to surrender their legal rights, risk their lives to affirmatively do something to make such Prius articles seem "safer," and then blame the defrauded for their own demise in them.

100. Each nondisclosure, misrepresentation, and misleading statement is embedded in a pattern of deception and enticements reasonably calculated to induce reliance.

101. The Toyota Enterprise Defendants' fraudulent intent in executing the mail fraud is established by their willfully, recklessly, voluntarily, and intentionally ongoing infringement, nondisclosures, false statements, and misleading representations as part of their scheme for inducing reliance and defrauding U.S. consumers out of billions of dollars for commercial advantage and/or private financial gain that proximately caused Plaintiff, Ms. Richard, in justifiable reliance thereon, risk of death, irreparable serious bodily injury, irreparable competitive medical career injury,

property damages, and other damages, for which the collective adjudged alien rank infringer defendants TMC, TMS, and TMNA, as a distinct 18 U.S.C. § 1962(b) violating "enterprise" within the Toyota Enterprise Defendants, are jointly and severally liable to her and for which the other defendants AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI are a cognizable 18 U.S.C. § 1962(c) violating "enterprise" within the Toyota Enterprise Defendants, that are also jointly and severally liable to her.

PREDICATE RACKETEERING ACTIVITY #3
(Violations of 18 U.S. Code § 1343 - Wire Fraud)

CLAIM 15 - 25

102. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 101 of this Complaint.

103. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), committed many acts of wire fraud in years spanning 2005-2015 by transmitting or causing to be transmitted fraudulent pretenses, representations, and promises by means of TV communication in interstate or foreign commerce, numerous writings, signals, pictures, and sounds for the purpose of executing a scheme to defraud in interstate or foreign commerce.

104. The Toyota Enterprise Defendants' scheme is calculated to willfully, recklessly, voluntarily, and intentionally deceive persons of reasonable prudence, comprehension, and compassion in order to part such persons from their money, induce them to surrender their legal rights, risk their lives, and then blame them for their own demise, unlike any known standard of fair play, honest dealings, an/or human ethics.

105. The scheme involves advertising ("ad") campaigns for the use and/or sale of undisclosed foreign imported adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11

and 39 infringing, Prius with **HYBRID SYNERGY DRIVE** ("Prius") articles, also known as "Prius II," including television ("TV") commercial ads, motion picture product placement, and TV programming sponsor integration set forth below:

Count	Air Date	Fraudulent TV Commerical Ad/Motion Picture Product Placement/TV Sponsor Integration Title for "infringing Prius II" constituting Wire Fraud under 18 U.S. Code § 1343
15	02/2005	TV Ad: "Standstill"
16	09/2005	TV Ad: "What if the Air Were Clean Again?"
17	04/2007	TV Ad: "America, Your Prius is Ready"
18	08/2008	TV Ad: "A Lesson in How to Unlitter"
19	09/2005	Motion Picture Product Placement: <i>In Her Shoes</i>
20	07/2007	Motion Picture Product Placement: <i>Transformers</i>
21	06/2009	Motion Picture Product Placement: <i>Away We Go</i>
22	11/2007	TV Sponsor Integration: <i>Scrubs</i> , Ssn. 7, Epsd. 3 "My Inconvenient Truth"
23	06/2009	TV Sponsor Integration: <i>Royal Pains</i> , Ssn. 1, Epsd. 4 "TB or not TB"
24	02/2010	TV Sponsor Integration: <i>Bones</i> , Ssn. 5, Epsd. 14 "Devil in the Details"
25	05/2010	TV Sponsor Integration: <i>Bones</i> , Ssn. 5, Epsd. 20 "Witch in the Wardrobe"

Table 4. Violations of Title 18, United States Code, Section 1343

106. The foregoing (1) depicts said Prius' **HYBRID SYNERGY DRIVE** marks without disclosing that they infringe **HYPERDRIVE™**, (2) fraudulently identifies the Prius articles as "cars," (3) fraudulently depicts the Prius in use on U.S. public streets, roads, and highways without disclosing that the Toyota Enterprise Defendants were without authority to "make, use, offer to sell, and/or sell" them on U.S. soil under U.S. law, as the Prius merely imitates the braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, merely imitates the steering disclosed in **HYPERDRIVE™**, and was consequently never a motor vehicle, hybrid electric vehicle, Toyota vehicle, or genuine product as purely faked imitation, (4) conspicuously omits the patent infringement federal jury trial verdict judgment against adjudged alien rank infringer TMC and TMS and TMNA for the infringing "Prius II" as affirmed on appeal and cross appeal by the United States Court of Appeals for the Federal Circuit, (5) omits the deaths of U.S. children, doctors, and Hoosiers as proximately caused by the "infringing Prius II" and ongoing risk of the same.

107. The Toyota Enterprise Defendants' fraudulent intent in executing the wire fraud

specifically targeting young professional people that are U.S. motor vehicle operators on a budget, that includes Plaintiff, Ms. Richard, is established by their willfully, recklessly, voluntarily, and intentionally ongoing infringement, nondisclosures, false statements, and misleading representations as part of their scheme for inducing reliance and defrauding U.S. consumers out of billions of dollars for commercial advantage and/or private financial gain that proximately caused Plaintiff, Ms. Richard risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, for which the collective adjudged alien rank infringer defendants TMC, TMS, and TMNA, as a distinct 18 U.S.C. § 1962(b) violating "enterprise" within the Toyota Enterprise Defendants, are jointly and severally liable to her and for which the other defendants AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI are a cognizable 18 U.S.C. § 1962(c) violating "enterprise" within the Toyota Enterprise Defendants, that are also jointly and severally liable to her.

CONSPIRACY
(Violations of 18 U.S. Code § 1962(d) - Conspiracy)

108. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 107 of this Complaint.

109. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), contradicted the Toyota Global Guiding principle to "Honor the language and spirit of the law of every nation and undertake open and fair business activities to be a good corporate citizen of the world, by conspiring in violation of 18 U.S.C. § 1962(d) to commit the foregoing predicate acts of racketeering, with some 15 out of the five-hundred-thirty-five U.S. Americans serving in Congress in 2010 and five governors administering five of the 50 United States in 2010, that collectively broke their allegiance to the United States, to serve the foregoing collective *Japanese* Toyota Enterprise Defendants in furtherance of the

aforesaid trafficking in counterfeit, mail fraud, and wire fraud racketeering acts to supplant legitimate U.S. motor vehicle industry with adjudged rank U.S. Patent infringers' foreign imported adjudged rank infringing articles, that were allegedly counterfeit marked, for the Toyota Enterprise's commercial advantage and/or private financial gain, that proximately caused Plaintiff, Ms. Richard's risk of death and actual serious bodily injuries, property damages, and other damages.

110. Part of the illegalities involved the Toyota Enterprise conspiring to commit the foregoing predicate racketeering acts by concealing and/or covering up the infringement of *federally protected* U.S. Intellectual property, by the adjudged alien rank infringer(s) "self-certifying" the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, bearing alleged counterfeit **HYBRID SYNERGY DRIVE** marks as a NHTSA and FMVSS compliant passenger car/ motor vehicle, when it was not as truly some 3000lbs. weighing imitation of the braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and imitation of the steering disclosed in **HYPERDRIVE™**.

111. The fraud served to supplant legitimate U.S. motor vehicle industry endeavor with the foreign imported adjudged rank infringing colorable imitation for the adjudged alien rank infringers' unjust enrichment through its sale for tens of thousands of U.S. dollars drawn on U.S. banks, for commercial advantage and/or private financial gain. The fraud served to deceive U.S. motor vehicle operators into naming motor vehicle defect causes of action rather than true, adjudged unconstitutional rank patent infringing adjudged status. The fraud served to make law enforcement believe that U.S. licensed motor vehicle operators defrauded into driving the adjudged alien rank infringing articles in the manner of a true motor vehicle that found themselves failed to stop on pressing the brakes, accelerated out of control without their feet on the accelerator pedal, and otherwise crashing without any airbags deploying (for the *imitation* flow of electrical energy) were the direct result of motor vehicle operator error.

112. The fraud served to bootstrap the U.S. Judiciary into violating the judicial repose established by the prior patent infringement judgments. The fraud served to allow such adjudged

alien rank infringers to then blame U.S. motor vehicle operators before the U.S. Judiciary for failing to properly employ their U.S. motor vehicle operator license, that has no relation to the operation of foreign imported adjudged alien rank infringing articles that adjudged alien rank infringers are without authority to "make, use, offer to sell, and/or sell." See 35 U.S. Code § 271(a) The fraud served to provide the adjudged alien rank infringers with the U.S. motor vehicle operator licensed victims' information and most privileged vital statistics and medical information, of and by their counsels, to make better colorable imitation with which to more effectively scrape, injure, serious bodily injure, totally and permanently disable, and/or kill further U.S. defrauded motor vehicle operator victims, their passengers, and/or passersby in proximity of such defrauded victims behind the imitation steering wheels of foreign imported adjudged rank U.S. patent infringing articles weighing some 3000lbs. with imitation of the braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and imitation of the steering disclosed in **HYPERDRIVE™** on U.S. public streets, roads, and highways.

113. This conspiracy further involved subtly and/or overtly involved directly or through others asking the U.S. International Trade Commission ("ITC") to violate its mandate at mandate at 19 U.S.C. § 1337, despite the meaning of the prior judgements under 19 U.S.C. § 1337(g), by *not* issuing cease and desist and/or exclusion order(s) against the the adjudged alien rank infringers and/or the subject foreign imported adjudged rank U.S. Patent 5,343,970 claims 11 and 39 infringing Prius with HYBRID SYNERGY DRIVE, respectively, which caused a flood of the foreign imported adjudged infringing articles to breach U.S. borders, which the Toyota Enterprise distributed interstate and sold nationwide, after a federal jury verdict trial judgment had served to inform the adjudged alien rank infringers TMC, TMS, and TMNA that they were collectively without authority to "make, use, offer to sell, and/or sell" any such thing.

114. The conspiracy involved the Toyota Enterprise Defendants establishing manufacturing facilities and/or plants in the five of the United States in furtherance of the Toyota Enterprise, or enslavement of those states' U.S. American citizens to such Toyota Enterprise, and/or compelled

representative governance in those states to submit written letters overtly against the exclusion of the Toyota Enterprise defendants' *foreign* manufactured, adjudged unconstitutional imported articles, that effectively advocated the killing other states' U.S. American citizens with them, ostensibly for fear of losing enslavement to the Toyota Enterprise. Nations older than the United States have termed such *blackmail* and taken affirmative action to abolish it.

115. Such foregoing RICO racketeering acts, among other acts, in furtherance of the conspiracy violated 18 U.S.C. § 1962(d), which proximately caused Plaintiff, Ms. Richard's (18 U.S.C. § 1964(c)) risk of death and actual serious bodily injury, property damages, other damages and further damages to her U.S. economic, educational, environmental, and civil rights surroundings, including but not limited to the maintenance of the separation of U.S. government powers inherent and explicit in the Constitution of the United States, U.S. federal governmental protections of the lives U.S. Americans, U.S. federal protections of U.S. American Competitiveness, and U.S. federal protections of U.S. American infrastructure for which the defendants are jointly and severally liable to the Plaintiff, Ms. Richard.

Active Fraudulent Concealment

CLAIM 26 (Violations of Indiana Code §§ 34-11-5-1)

116. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 115 of this Complaint.

117. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), had knowledge of the U.S. Const. Art. I and III authorized federal jury trial verdict judgments against them for infringement of the federally protected U.S. Patent 5,343,970, with specific regard to the subject foreign imported adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with

HYBRID SYNERGY DRIVE ("Prius"), also known as "Prius II," that they were consequently without authority to "make, use, offer to sell, and/or sell" on U.S. soil under Art. III jurisdiction under U.S. law.

118. In full awareness of the judgments against them, the collective foregoing Defendants did willfully, recklessly, voluntarily, intentionally, and actively conceal from the Plaintiff, Ms. Richard such knowledge for the purpose of further violating the prohibition rooted in the U.S. CONST. at Art. 1, § 8, cl. 8, by further infringing U.S. Patent 5,343,970 claims 11 and 39, by willfully, recklessly, voluntarily, and intentionally manufacturing and/or importing in October of 2008, that is "making, using, offering to sell, and/or selling" in the United States, the subject foreign imported undisclosed adjudged rank infringing 2009 Prius with **HYBRID SYNERGY DRIVE**, also known as "Prius II," that the collective foregoing Defendants were without authority to "make, use, offer to sell, and/or sell" under U.S. law, on U.S. soil, under U.S. CONST. Art. I and Art. III authorized U.S. Judiciary jurisdiction governance.

119. The collective foregoing Defendants did this by extrinsically fraudulently concealing the true status of the foreign imported subject adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with **HYBRID SYNERGY DRIVE** ("Prius"), also known as "Prius II," by willfully, recklessly, voluntarily, and intentionally "self-certifying" the subject 2009 Prius as a NHTSA and FMVSS comporting passenger car/motor vehicle under color of the U.S. National Traffic and Motor Vehicle Safety Act, when Title 49 of the U.S. Code at Part A - Transportation - does not provide for the importation of foreign manufactured, adjudged rank U.S. patent infringing articles as passenger car(s)/motor vehicle(s).

120. The collective foregoing Defendants did this by extrinsically fraudulently concealing the true status of the foreign imported subject adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with **HYBRID SYNERGY DRIVE** ("Prius"), also known as "Prius II," by willfully, recklessly, voluntarily, and intentionally paying millions of dollars to market such 2009 Prius as "cars" that appeared in U.S. commercial advertisements, motion

picture placement, and sponsor integration in media.

121. The collective foregoing Defendants did this by extrinsically fraudulently concealing the true status of the foreign imported subject adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with **HYBRID SYNERGY DRIVE** ("Prius"), also known as "Prius II," by willfully, recklessly, voluntarily, and intentionally mailing motor vehicle recall notices for such 2009 Prius that neither disclosed, nor remedied the infringing condition that is imitation of the braking, acceleration, and flow of electrical energy disclosed in the *federally protected* U.S. Patent 5,343,970 that the adjudged alien rank infringers were without authority to "make, use, offer to sell, and/or sell," by U.S. constitutional prohibition.

122. These acts by the collective foregoing Defendants were calculated to misdirect U.S. consumers' scrutiny to defraud them and induce them into infringement by parting with tens of thousands of dollars for such foreign imported adjudged rank infringing articles, instilling in those consumers a false sense of security by having them actively do something to make subject Prius II articles seem "safer" to drive, and thus prevent them from making further inquiry to learn the truth that the adjudged alien rank infringer TMC and TMS and TMNA, and those in privity with them, were without authority to "make, use, offer to sell, and/or sell" it, for its imitation braking, imitation acceleration, and imitation flow of electrical energy (to deploy airbags), among other things, on U.S. soil under Art. III jurisdiction under U.S. law.

123. These acts by the collective foregoing Defendants were calculated to suppress and conceal federal jury verdict tried truths to misdirect some of the most venerable motor vehicle defect law firms for Plaintiffs in the U.S. into believing that the foreign imported subject adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with **HYBRID SYNERGY DRIVE** ("Prius"), also known as "Prius II," that the adjudged alien rank infringer TMC and TMS and TMNA, and those in privity with them including adjudged alien criminals AISIN and DENSO, were without authority to "make, use, offer to sell, and/or sell" on U.S. soil under Art. III jurisdiction under U.S. law, was merely a defective motor vehicle, to stipulate to a 1968 Multidistrict

Litigation Act and 28 U.S.C. § 1407(b) depositions delimited transferee judge a class certification, without Congressional authority, and a settlement agreement, without Congressional authority, that involves divulging the privileged U.S. motor vehicle operator and U.S. privileged medical information of physically scraped, physically injured, physically serious bodily injured, physically totally and permanently disabled, and dead U.S. citizen victims of the adjudged alien rank infringers' foreign imported adjudged rank infringing "Prius II," among other things, to the identical adjudged alien rank infringer TMC and TMS and TMNA and those in privity with them that may include adjudged alien criminals AISIN and DENSO, in violation of National Security, for unknown purposes that may include without being limited to (1) gaining the vital statistics of past defrauded consumers to render better counterfeit to better psychologically defraud more U.S. children, doctors, Hoosiers, and people to death, (2) ostensibly usurping the 2006 federal jury trial verdict judgment of patent infringement that was affirmed on appeal, cross appeal, and remand in violation of federal res judicata and/or stare decisis, and/or repose to better psychologically defraud more U.S. children, doctors, and Hoosiers to death, and (3) minimizing the collective foregoing Defendants' financial liability exposure to each such defrauded U.S. individual by devaluing their true U.S. Const. Art. 1, § 8, cl. 8 and racketeering (trafficking in counterfeit, mail fraud, and wire fraud) case under color of a motor vehicle defect case, for which the collective foregoing Defendants are liable to the Plaintiff, Ms. Richard.

124. Indiana's Fraudulent Concealment Statute (Indiana Code §§ 34-11-5-1) provides "If a person liable to an action conceals the fact from the knowledge of the person entitled to bring the action, the action may be brought at any time within the period after the discovery because of action.

125. *Johnson v. Hoosier Enterprises, et al.* (Ind. Ct. App. No. 49A02-0402-CV-209) clarifies "Fraudulent concealment is an equitable doctrine that operates to estop a defendant from asserting the statute of limitations as a bar to a claim whenever the defendant, by his own actions, prevents the plaintiff from obtaining the knowledge necessary to pursue a claim." *Doe v. Shults-Lewis Child*

& *Family Servs.*, 718 N.E.2d 738, 744 (Ind. 1999). The doctrine is available to the plaintiff when the defendant "has either by deception or by a violation of duty, concealed from the plaintiff material facts thereby preventing the plaintiff from discovering a potential cause of action." *Id.* at 744-45 (quoting *Fager v. Hundt*, 610 N.E.2d 246, 251 (Ind. 1993)). "When this occurs, equity will toll the statute of limitations until the equitable grounds cease to operate as a reason for delay." *Doe*, 718 N.E.2d at 745. The doctrine of fraudulent concealment applies to concealment of parties *and* the cause of action. *Stephens v. Irvin*, 730 N.E.2d 1271 (Ind. Ct. App. 2000).

126. Plaintiff, Ms. Richard relied upon such (1) willful, reckless, voluntary, and intentional fraudulent suppression and concealment of the adjudged alien rank infringers' change in status from foreign importers of motor vehicle products to adjudge alien rank infringers, (2) adjudged alien rank infringers' fraudulent suppression and concealment of their willfully, recklessly, voluntarily, and intentionally unconstitutional violation of the prohibition at U.S. CONST. Art. I, § 8, cl. 8, by manufacturing the subject foreign imported subject adjudged rank "Hybrid Electric Vehicle" entitled U.S. Patent 5,343,970 claims 11 and 39 infringing, 2009 Prius with **HYBRID SYNERGY DRIVE** ("Prius"), also known as "Prius II," that the adjudged alien rank infringer TMC and TMS and TMNA, and those in privity with them including adjudged alien criminals AISIN and DENSO, were without authority to "make, use, offer to sell, and/or sell" on U.S. soil under Art. III jurisdiction under U.S. law, (3) fraudulent concealment of the foregoing "Prius II" article by the adjudged alien rank infringers' "self-certifying" it as a NHTSA and FMVSS comports passenger car/motor vehicle, (4) fraudulent concealment of the foregoing adjudged rank infringing "Prius II" and the adjudged alien rank infringers status by omission in millions of impressions of fraudulent commercial advertisements and/or fraudulent use of wire transmissions of the like and/or kind touting the "Prius with HYBRID SYNERGY DRIVE from Toyota," when Toyota was neither was the source of the intellectual property that embodies the "Prius II" nor authorized to "make, use, offer to sell, and/or sell it," which collectively proximately caused Plaintiff Ms. Richard risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages

on December 8, 2013, for the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE's 3000lbs. of imitation braking, imitation acceleration, and imitation steering, and imitation airbag deployment collectively failing on U.S. Interstate-65 near mile marker 115.2, for which the collective foregoing defendants are liable to her.

127. In reliance thereon Plaintiff, Ms. Richard, named motor vehicle defects as the proximate cause of the foregoing and/or prevented her from naming a true cause of action and/or from naming all germane parties on filing December 8, 2015, dated original complaint in the U.S. District Court for the Southern District of Indiana, for which the collective foregoing defendants are liable to her.

128. The foregoing prevented Plaintiff, Ms. Richard, from comprehending the said 2006 federal jury trial verdict judgment against the adjudged alien rank infringer TMC and TMS and TMNA, until after her May of 2016, dated attempt to amend complaint, despite the said December 8, 2013, first applicable date of incident and December 8, 2015, dated original Complaint, for which the collective foregoing defendants are liable to her.

Intentional Fraudulent Misrepresentation

CLAIM 27 (Constructive Fraud)

129. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 128 of this Complaint.

130. Pursuant to *Smart Perry Ford Sales v. Weaver*, 274 N.E.2d 718 (Ind. Ct. App. 1971) in Indiana, "what is susceptible of exact knowledge when the statement is made is usually considered to be a statement of fact. *Jenkins v. Long* (1862), 19 Ind. 38, 81 Am. Dec. 374; 37 Am.Jur.2d, *Fraud and Deceit*, § 46, p. 74. . . . Constructive fraud is defined as a fraud which arises as an operation of law from statements, acts, or a course of conduct, which if sanctioned by law would secure an unconscionable advantage to the one making such statements. *Brown v. Brown* (1956), 235 Ind. 563, 135 N.E.2d 614. The test to determine whether or not a constructive fraud has been perpetrated is set forth in *New v. Jackson* (1911), 50 Ind. App. 120, 125, 95 N.E. 328:

"An unqualified statement that a fact exists, *made for the purpose of inducing another to act upon it*, implies that the person who makes it knows it to exist and speaks from his own knowledge. If the fact does not exist, and the defendant states of his own knowledge that it does, and induces another to act upon his statement, the law will impute to him a fraudulent purpose." *New, supra*, 50 Ind. App. at 125.

131. In *Kirkpatrick v. Reeves* (1889), 121 Ind. 280, 22 3 N.E. 139, three tests for constructive fraud were set out by the court:

1. Were the statements made to induce the plaintiff to buy?
2. W[h]ere they relied upon?
3. Did the defendant profess to possess knowledge of their truth?

The court in *Kirkpatrick, supra*, further stated:

"If he states, as of his own knowledge, material facts susceptible of knowledge, which are false, it is a fraud which renders him liable to the party who relies upon the statement as true, and it is no defense that he believed the facts to be true.' . . . A defendant who makes a statement of his own knowledge can not escape liability upon the ground that he acted upon trustworthy information." *Kirkpatrick, supra*, 121 Ind. at 282.

132. The Court in *Capitol Dodge, Inc. v. Haley*, 288 N.E.2d 766 (Ind. Ct. App. 1972) set forth that, "As stated in *Jones v. Hernandez* (1970), 148 Ind. App. 17, 263 N.E.2d 759, 763:

"The Indiana punitive damages are proper where the acts of the wrongdoer are such as to indicate heedless disregard of the consequences." . . . [I]t might be kept in mind that punitive damages are not compensatory in their nature but are designed to punish the wrongdoer and to dissuade him and others from similar conduct in the future. *Indianapolis Bleaching Co. v. McMillan* (1916), 64 Ind. App. 268, 113 N.E. 1019. We deem such awards to be particularly appropriate in proper cases involving "consumer fraud." . . . Unconcern for the truth may serve as an imputation of scienter. *Jordanich v. Gerstbauer*, 153 Ind. App. 416, 287 N.E.2D 784. . . . It is but to repeat a truism that the question of reliance is one of fact to be determined by the jury . . . *Smart Perry Ford Sales, Inc. v. Weaver* (1971), 149 Ind. App. 693, 274 N.E.2d 718."

133. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the foreign imported adjudged rank infringing "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970

claims 11 and 39, by manufacturing and/or importing, or by "making, using, offering to sell, and/or selling" in the United States the subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," and then extrinsically fraudulently "self-certify" it to be a NHTSA and FMVSS comports passenger car/motor vehicle to wit:

"MFD. BY: TOYOTA MOTOR CORPORATION 10/08
GVWR 3795LB FAWR FR 2335 LB RR 2250LB
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND
THEFT PREVENTION STANDARDS IN EFFECT ON
THE DATE OF MANUFACTURE SHOWN ABOVE.
JTDKB20U993486580 PASS. CAR
[BARCODE][TOYOTA GLOBAL TRADEMARK]
C/TR:040/FF11 NHW20L - AHEEBA
A/TM: -01A/P112 MADE IN JAPAN 796 [ENLARGED LETTER "A"]"

134. The foregoing self-certification comprises willfully, recklessly, voluntarily, and intentionally false misrepresentations ostensibly made on the October 2008 date of manufacture and/or importation, which are to wit:

CLAIM/ COUNT	FRAUDULENT MISREPRESENTATION	TRUTH PURSUANT TO FEDERAL JURY TRIAL VERDICT OF PATENT INFRINGEMENT AGAINST TMC, TMS, and TMNA UNDER U.S. LAW IN 2006
26	"BY: TOYOTA MOTOR CORPORATION"	FALSELY IDENTIFIES THAT (1) TMC IS THE SOURCE OF THE "HYBRID ELECTRIC VEHICLE" INTELLECTUAL PROPERTY EMBODYING THE SUBJECT "INFRINGING PRIUS II," (2) TITLE TO THE SUBJECT "INFRINGING PRIUS II" LIES WITH TOYOTA MOTOR CORPORATION, AND (3) TMC IS AS IT EVER WAS, WITH NO STATUS CHANGE TO TRULY ADJUDGED ALIEN INFRINGERS OF FEDERALLY PROTECTED U.S. PATENT 5,343,970.
27	"THIS VEHICLE"	FALSELY IDENTIFIES THAT THE SUBJECT "INFRINGING PRIUS II" EMBODIMENT IS IDENTICAL TO A TRUE MOTOR VEHICLE, RATHER THAN ACTUAL IMITATION
28	"CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS"	FALSELY INDICATES THAT TRUE MOTOR VEHICLE ATTRIBUTES DISCLOSED IN 49 CFR 571 AND/OR TITLE 49 OF THE UNITED STATES CODE OF LAWS EXIST IN THIS "INFRINGING PRIUS" INSTEAD OF TRULY IMITATION BRAKING, IMITATION ACCELERATION, AND IMITATION FLOW OF ELECTRICAL ENERGY, AMONG OTHER THINGS THAT MOTOR VEHICLES DO NOT EVEN HAVE

29	"JTDKB20U993486580"	FALSELY INDICATES THAT 49 CFR 565.20 PROVIDES FOR THE "INFRINGING PRIUS II," AS A TRUE MOTOR VEHICLE WORTHY OF VEHICLE IDENTIFICATION NUMBER FOR SALE BY U.S. MOTOR VEHICLE DEALERS AND FOR INSURANCE, REPAIRS, A LICENSE PLATE, AND TRACKING . . . ASSOCIATED WITH AUTHORIZED USE ON U.S. PUBLIC STREETS ROADS AND HIGHWAYS BY U.S. LICENSED MOTOR VEHICLE OPERATORS, WHEN IT TRULY MAY NOT BE "MADE, USED, OFFERED FOR SALE, AND/OR SOLD" ON U.S. SOIL UNDER U.S. ART. III JURISDICTION UNDER U.S. LAW
30	"PASS. CAR"	FALSELY INDICATES THAT THE "INFRINGING PRIUS II" IS A TRUE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION AUTHORIZATION ACT OF 1991 § 2502(a)(3) CODIFIED "motor vehicle with motive power (except passenger vehicle, motorcycle, or trailer), designed for carrying 10 persons or fewer."

Table 5. Written "self-certification" misrepresentations

135. TMC, TMS, and TMNA had actual knowledge of having no basis in truth to state and/or imply the foregoing falsely written assertions of fact displayed in plain block letters (see § 525, 526,) on or mailed in connection with the subject foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, because 2005 federal jury trial finders of fact considered expert scientific evidence over a ten-day trial before informing TMC, TMS, and TMNA, by delivering a federal jury trial verdict for federal patent infringement against against them, with specific regard to the adjudged rank "infringing" 2009 "Prius" with HYBRID SYNERGY DRIVE, and those in privity with them.

Count	Date of Notice Delivery	Foreign Imported, Adjudged Rank U.S. Patent 5,343,970 claims 11 and 39 Infringing Device	Description of Alleged Fraudulent Mailing from Defendant TMS to take motor vehicle recall action for undisclosed adjudged infringing or imitation device manifestations without disclosing those manifestations as such or truly remedying them.
31	November 2012	2009 Prius with HYBRID SYNERGY DRIVE	UNDATED Toyota Recall No. 90L/90LG (NHTSA 09V388000) 2004-2009 Model Year Prius "Vehicles" [Prius II] Potential Floor Mat Interference with Accelerator Pedal SAFETY RECALL FOLLOW-UP NOTICE (URGENT)
32	November 2012	2009 Prius with HYBRID SYNERGY DRIVE	UNDATED (NHTSA 12V536000) 2004-2009 Model Year Prius "Vehicles" [Prius II] COT - Steering intermediate Extension Shaft (Phase 2) and COU - Hybrid Electric water Pump SAFETY RECALL NOTICE (Interim Notice)
33	January 2013	2009 Prius with HYBRID SYNERGY DRIVE	UNDATED 2004-2009 Model Year Prius "Vehicles" [Prius II] Combination Meter WARRANTY ENHANCEMENT NOTICE

Table 6. Written "recall" and/or "warranty" misrepresentations for the subject adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, mailed from adjudged rank infringer TMS, under color of the U.S. National Traffic and Motor Vehicle Safety Act

136. TMC, TMS, and TMNA intended the misrepresentations for people other than immediate purchaser(s), for their unconscionable retail sales tax certificates "placing wholesale dealers on notice that dealers intended to resell them." See *Varwig v. Anderson-Bethel Porsche/Audi, Inc.*, 74 Cal.App.3d 578, 141 Cal.Rptr. 539, 541(CITATION). The aforesaid 2009 *Paice III* memorandum opinion explicitly states that TMC, TMS, and TMNA were "voluntarily and intentionally" importing 20,000 such adjudged rank infringing and fraudulently *self-certified* articles per month, despite being federal jury trial adjudged as without authority to "make, use, offer to sell, and/or sell" them, in accordance with Title 35 of the United States Code of Laws. TMC, TMS, and TMNA were aware of years of NHTSA complaints, knowing that NHTSA does not regulate foreign imported intentionally trafficked counterfeit, that alleged catastrophic failures in the adjudged rank infringing Prius brakes, "drive train," steering, and/or other combined or imitations of U.S. Patent 5,343,970 claims 11 and 39 plainly disclosed attributes that were merely imitated in such undisclosed Japanese counterfeited, counterfeit marked, and extrinsically fraudulently misrepresented "self-certified" foreign imported Prius articles. TMC, TMS, and TMNA were being sued nationwide and in multidistrict litigation(s) for defective Prius "brakes" and/or "unintended acceleration" when such were truly utter imitation that were incapable of defect or assignment of title through UCC sale for conveyance to anyone. Yet, for such misrepresentations, the inapposite litigations were allowed to proceed for myriad tragic allegations, including but not limited to, horrific impact with trains at railroad crossings to wrecks to death(s) of Prius occupants.

137. The Defendants' misrepresentations and intentional disregard for the truth effectively concealed the aforesaid judgments and the Defendants' legal change in status to deny Plaintiff, Ms. Richard, and the public access to information that is highly relevant to a purchase decision and/or decision to employ a U.S. motor vehicle operator license to drive such undisclosed foreign imported

adjudged rank infringing, alleged counterfeit marked, and extrinsically fraudulently "self-certified" Prius with HYBRID SYNERGY DRIVE in the manner of a true NHTSA and FMVSS compliant motor vehicle on U.S. public streets, roads, and highways.

138. Each of the foregoing representations is material in that if Plaintiff, Ms. Richard, had been apprised of their falsity, she would not have entered into an automobile insurance contract for insuring or have applied her U.S. motor vehicle operator license for driving the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE.

139. In justifiable reliance (§ 537) on each and every foregoing willful, reckless, voluntary, and intentional misrepresentation made by the collective foregoing adjudged rank infringer Defendants, of and by their counsel(s), Plaintiff Ms. Richard suffered risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages as proximately caused by the subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," for which the collective defendants in the above entitled action are jointly and severally liable for both pecuniary losses amounting to some [FIGURE] (**Restatement 2nd of Torts § 525, § 526, § 531 at illustrations 4 & 5 and reference to § 304 and § 310 and § 311 and § 545A, § 552A** first sentence of comment "a.", **§ 532, § 533, § 534, § 536, § 537**) and for serious bodily injury (§ 310, § 331, § 552A first sentence of comment "a.", and § 557A) to the Plaintiff, Ms. Richard.

Fraud

**CLAIM 28
(Actual Fraud)**

140. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 139 of this Complaint.

141. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien

criminals AISIN and DENSO, of and by their counsel(s), that the 2006 federal jury trial verdict in *Paice I* as affirmed in *Paice II* and *Paice III* establishes to be without authority to "make, use, offer to sell, and/or sell" the foreign imported adjudged rank infringing "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970 claims 11 and 39, by manufacturing and/or importing, or by "making, using, offering to sell, and/or selling" in the United States the subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," and then extrinsically fraudulently "self-certify" it to be a NHTSA and FMVSS complying passenger car/motor vehicle, for which they are liable to the Plaintiff, Ms. Richard, for fraud.

142. Under Indiana law a Defendant is liable for fraud if there is: (1) a material misrepresentation of past or existing fact by the party to be charged; which (2) was false, (3) was made with knowledge or in reckless ignorance of the falsity, (4) was relied upon by the complaining party, and (5) proximately caused the complaining party injury. *Darst v. Illinois Farmers Ins. Co.*, 716 N.E.2d 579, 581 (Ind. Ct. App. 1999), *trans. Denied* (2000).

143. Adjudged alien rank infringer TMC and TMS and TMNA were found by federal jury trial verdict judgment in 2006 to infringe the U.S. Patent 5,343,970 claims 11 and 39 as upheld on appeal and cross appeal in 2007. In 2008 the adjudged rank infringer Defendants and those in privity with them, of and by their counsel(s), sold the said subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 identically named Prius with HYBRID SYNERGY DRIVE, also known as "infringing Prius II," that they were without authority to "make, use, offer to sell, and/or sell" on U.S. soil under Art. III jurisdiction under U.S. law, and were adjudged to have had no title in any such thing to convey to anyone on Uniform Commercial Code lawfully defined sale.

144. The adjudged alien rank infringer TMC applied the spurious and/or **HYBRID SYNERGY DRIVE** marks that infringe nine of the ten U.S. Patent 5,343,970 holder's **HYPERDRIVE™** word mark trademark letters that was presented to both houses of the U.S. Congress, the U.S. Senate on

December 6, 2001 and the U.S. House of Representatives in 2002 in connection with *federally protected* U.S. Patent 5,343,970 disclosed intellectual property, to the power control unit, rear door, and "Quick Reference Guide" documentation of the said subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with **HYBRID SYNERGY DRIVE**, which caused confusion, mistake, and deceit.

145. The adjudged alien rank infringer TMC extrinsically fraudulently "self-certified" the subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with **HYBRID SYNERGY DRIVE**, in which it had no title to transfer, was without authority to "make, use, offer to sell, and/or sell" on U.S. soil, and had counterfeit and/or spuriously marked with **HYBRID SYNERGY DRIVE** to be a NHTSA and FMVSS comporting passenger car/motor vehicle, when it was not.

146. An April 17, 2009, dated memorandum from the federal jury trial court indicates that the adjudged alien rank infringer Defendant(s) sold some 240,000 ("over 20,000 per month in 2008.") of the said 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with **HYBRID SYNERGY DRIVE** and notes wholesale cost of \$20,419 per such Prius, which multiplies to over \$4.9 billion in 2009 Prius with **HYBRID SYNERGY DRIVE** base model revenue, alone, to which the adjudged alien rank infringer(s) are not entitled, which the adjudged alien rank infringer(s) have used in furtherance of that which they are not entitled.

147. Plaintiff Ms. Richard relied on the collective foregoing Defendants' false marketing, advertising, packaging, and labeling of the said 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with **HYBRID SYNERGY DRIVE** that breached U.S. borders and was distributed interstate, and in justifiable reliance thereon, applied her U.S. motor vehicle operator license to use the undisclosed adjudged rank infringing 2009 Prius with **HYBRID SYNERGY DRIVE** in the manner of a NHTSA and FMVSS comporting passenger car/motor vehicle on U.S. Interstate 65 near mile marker 115.2 in Indianapolis, Indiana, on December 8, 2013, to her detriment.

148. The foregoing fraud proximately caused Plaintiff, Ms. Richard, to suffer risk of death in multiple impacts of a some 3000lbs. weighing foreign imported undisclosed adjudged rank infringing Prius and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, for which the collective defendants in the above entitled action are jointly and severally liable to the Plaintiff, Ms. Richard.

Unjust Enrichment

CLAIM 29

149. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 148 of this Complaint.

150. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI, in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), did willfully, recklessly, voluntarily, intentionally, and fraudulently (1) "self-certify" the subject 2009 Prius as U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standard comporting ("FMVSS") passenger car/motor vehicle, when it was not, (2) knowingly use **HYBRID SYNERGY DRIVE** infringing word and/or dressed marks that are spurious and/or counterfeit and infringe nine of the ten letters in the **HYPERDRIVE™** word mark trademark on and in connection with it the subject 2009 Prius, among other foreign imported articles, to cause confusion, mistake, and/or deceit, and (3) offer the collective extrinsically fraudulently identified and counterfeit marked whole for "sale" without any title in it or authority to do so.

151. By unconstitutionally receiving tens of thousands of U.S. dollars for such 2009 Prius, among other foreign imported articles, as drawn on U.S. banks and/or commercial advantage and/or private financial gain for such 2009 Prius, among other foreign imported articles, TMC, TMS, and TMNA have, thereby, been unjustly enriched to the detriment of Plaintiff, Ms. Richard, among

others.

152. Public documents dated 2010 that indicate that the Defendants sold 75% of hybrid vehicles in the U.S.A., which *Paice I*, *Paice II*, and *Paice III* establishes that they were without authority to "make, use, offer to sell, and/or sell," in accordance with an U.S. International Trade Commission administrative law judge qualifying infringement as applicable to " . . . any system that infringes the '970 patent, including but not limited to the 2004 model year and later Toyota Prius, the toyota Highlander hybrid, the Lexus RX 400h and all other vehicles or systems substantially embodying what is variously termed the Hybrid Synergy Drive or Toyota Hybrid System II ("THS II") and colorable imitations thereof;")(emphasis added)."

153. Furthermore, court records indicate that through AISIN, TMC licensed the technology that it was without authority to "make, use, offer to sell, and/or sell" to Ford Motor Company, which may have been beset by unintended acceleration litigation. Court records further indicate criminal litigation against TMC's wholly owned and operated AISIN by General Motors Company, Nissan Motor Co., Ltd., Volvo Car Corporation, BMW AG, with specific regard to engine VVT parts, which exist in the "infringing Prius," the hybrid system of which AISIN advertised to have developed for TMC, TMS, and TMNA. General Motors Company was in a partnership with TMC, TMS, and TMNA during the development of the adjudged rank "infringing Prius II."

154. With the 2009 Eastern District of Texas indicating that TMC, TMS, and TMNA were selling 20,000 "infringing Prius II" per month, or 240,000 per year, which exceeds the number that the Toyota Enterprise Defendants were publicly representing that they sold, there is reason to believe that the aggregate sold by TMC, TMS, and TMNA (including Lexus), including those licensed "colorable imitations thereof" by Ford Motor Company and/or General Motors company (including Saturn) that may collectively infringe and/or imitate the federally protected U.S. Patent 5,343,970 claims 11 and 39, which TMC, TMS, and TMNA were also "without authority to make, use, offer to sell, and/or sell" would amount to a TMC, TMS, and TMNA monopoly on foreign imported adjudged rank infringing articles, if such were bona fide "goods," which they are not.

155. As the U.S. Federal Reserve implies with currency counterfeiting, the greatest damage is done in ongoing subsequent transactions with the counterfeit U.S. denominated bills. Whereas, the largest denomination of bill in that paradigm is \$100.00USD, the above entitled action involves the analogue damage equivalent of TMC, TMS, and TMNA entering a single \$15,000.00USD denominated counterfeit bill or higher into U.S. circulation for such funds drawn on U.S. banks to adjudged alien rank infringers for a counterfeit "HYBRID ELECTRIC VEHICLE," after having already previously circulated such counterfeit for \$30,000 and \$25,000, and \$20,000 . . . at risk of U.S. consumers and/or guests.

156. The Petitioner in ***Romag v. Fossil*** set forth that the Fifth Circuit stated in *Quick Technologies, Inc. v. Sage Group PLC*, 313 F.3d 338 (5th Cir. 2002) that "willful [trademark] infringement is an important factor which must be considered when determining whether an accounting of profits is appropriate." *Id.* at 349. But the court "decline[d] to adopt a bright-line rule" that would require willfulness as a prerequisite to recover profits. Instead, the court outlined a "factor based approach," under which a defendant's "intent to confuse or deceive" is just one consideration relevant to whether an award of profits is appropriate. *Id.* at 348-49.

157. Similarly in the Eleventh circuit, "an accounting of a defendant's profits is appropriate where 91) the defendant's conduct was willful and deliberate, (2) the defendant was unjustly enriched, *or* (3) it is necessary to deter future conduct." *Optimum Techs., Inc. v. Home Depot U.S.A., Inc.*, 217 F. App'x 899,902 (11th Cir. 2007)(emphasis added.) The Seventh Circuit has also held that, "[o]ther than general equitable considerations, there is no express requirement that . . . the infringer wilfully [sic] infringe the trade dress to justify an award of profits." *Roulo v. Russ Berrie & Co., Inc.*, 866 F.2d 931, 941 (7th Cir. 1989)."

158. The Defendants undertook to intentionally unjustly enrich themselves by multibillions of U.S. dollars, *in offering to sell* the subject foreign imported adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE that they were without authority to "make, use, offer to sell, and/or sell," on U.S. soil under the U.S. Judiciary's U.S. Art. III jurisdiction. This proximately caused serious

bodily injury, irreparable competitive medical career injury, property damages, and other damages, and great economic cost to Ms. Richard's public environment in addition to her extreme mental anguish and extreme physical pain, for the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE's 3000lbs. of merely imitation braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and mere imitation of the steering disclosed in **HYPERDRIVE™**, that collectively failed with Ms. Richard seated inside of it, on U.S. Interstate-65 near mile marker 115.2 in Indianapolis, Indiana, for which the collective defendants are jointly and severally liable to her.

RESTITUTION ACTION

CLAIMS 30 - 41

FOR EXCEPTION TO PERFORMANCE ON AN UNENFORCEABLE MOTOR VEHICLE DEALER PURCHASE ORDER CONTRACT FOR PUBLIC POLICY REASONS

159. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 158 of this Complaint.

160. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, and MITSUI, in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the foreign imported adjudged rank infringing "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970 claims 11 and 39, by manufacturing and/or importing, or by "making, using, offering to sell, and/or selling" in the United States the subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," and then extrinsically fraudulently "self-certifying" it to be a NHTSA and FMVSS comports passenger car/motor vehicle to breach U.S. borders and distribute interstate for commercial advantage and/or private financial gain through their unlawful sale at U.S. motor vehicle

dealerships.

161. The subject undisclosed adjudged rank U.S. Patent 5,343,970 "infringing" 2009 "Prius II" was named to a motor vehicle Dealer Purchase Order Contract for the sale of motor vehicles, which made the contract of the *unenforceable* variety on grounds of public policy, for the aforesaid prior patent infringement judgment(s) denoting that it was not legally feasible for anyone on U.S. soil to own such 2009 "Prius II," including the Butler Hyundai seller, for the adjudged alien rank infringers TMC, TMS, and TMNA having never lawfully held title in such 2009 "Prius II" to transfer to anyone by definitive Uniform Commercial Code "sale." See Restatement, Second, of Contracts § 8 at comment "b."

162. However, an exception to unenforceability applies in the above entitled action, because of the adjudged alien rank infringer Defendants intentionally fraudulent and material misrepresentation (Restatement, Second, of Contracts § 162(1)) of the undisclosed adjudged rank "infringing Prius II," for "self-certifying" it as a NHTSA and FMVSS comports passenger car, for which there was "part or full performance and reliance" by the aggrieved Plaintiff, Ms. Richard, that in justifiable reliance on the misrepresentation applied U.S. licensed motor vehicle operator skills to drive such "infringing Prius II" on U.S. public streets, roads, and highways in the manner of a true motor vehicle, when it was not, to her serious bodily injury, property damages, and other detriment. See Restatement, Second, of Contracts § 138 at comment "c."

163. The fraudulent misrepresentation was material in that there would have been no purchase of the "infringing Prius II" and Plaintiff, Ms. Richard, would not have applied U.S. motor vehicle operator license education and covenants to drive such "infringing Prius II," that was not a motor vehicle and that adjudged alien rank infringers TMC, TMS, and TMNA, and those in privity with them, were without authority to "make, use, offer to sell, and/or sell" on U.S. soil under U.S. law under U.S. CONST. Art. I and Art III Judiciary jurisdiction, if TMC, TMS, and TMNA had disclosed their changed status and that of the "infringing Prius II" in full truth and honesty.

164. The alleged motor vehicle "property" on the Dealer Purchase Order contract is the subject

2009 Toyota Prius [with HYBRID SYNERGY DRIVE] with Vehicle Identification Number JTDKB20U993486580, which was named as "infringing Prius II" as early as a 2006 dated judgment for patent infringement to the effect that "Toyota" had no title in such "infringing Prius II" and was without authority to "make, use, offer to sell, and/or sell" it, for violation of U.S. CONST. Art. I, § 8, cl. 8, *Acts for the Useful Arts* promulgated thereunder, and rules promulgated thereunder at Titles 19 and 35 of the United States Code of laws, among others.

165. *Infringers are not entitled to any revenue for any article in which they never held any title.*

Therefore Plaintiff as the aggrieved party seeks restitution of all performance by all parties involved in the Dealer Purchase Order contract relating to the foreign imported subject 2009 Prius with HYBRID SYNERGY DRIVE in the above entitled action, which are the Dealer, Purchaser (or assigns), Government, Document Processing entities, Title processing, Retail Installment Contract Lender, and Automobile/Motor Vehicle Insurer, among others that are to wit:

I. RELIANCE: DEALER TO PURCHASER
(\$10,890.00 and \$10,890.00, or \$21,780)

166. **CLAIM 30:** *Dealer* performed on the Purchase Order contract *on behalf of the Purchaser* (and/or assigns) by offering truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle, at a taxable price of \$10,890.00. As the aggrieved party, *Plaintiff, Ms. Richard, seeks full restitution of \$10,890.00 contract performance by the Dealer,* from that adjudged alien rank infringer Defendants, that has and/or had a relationship with the adjudged alien rank infringers/ formerly "Manufacturer" as disclosed in clause 1 of the motor vehicle Dealer Purchase Order contract, that are the identical Defendants, for which the collective defendants are jointly and severally liable to her.

167. **CLAIM 31: Purchaser** (or assigns) performed in two steps on the contract to the *Dealer*, among others, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle:

A. **CASH PAID -**

The Purchase Order contract discloses a **\$5,800** (cash) credit that the Purchaser paid in performance to the Dealer, *for which the aggrieved Plaintiff seeks full restitution.*

B. **PURCHASE ORDER CONTRACT FINANCING -**

Clause 13 of the Purchase Order contract "ADDITIONAL TERMS AND CONDITIONS" says:

"The Purchase, before or at the time of delivery of the motor vehicle covered by this Order will execute such forms of agreement or documents as may be required by the terms and conditions of payment indicated on the front of this Order."

Clause 13 of the Purchase Order contract "ADDITIONAL TERMS AND

CONDITIONS" provides:

"If a charge for Creditor Life Insurance is included in this Order the provisions on Creditor Life Insurance in any retail installment contract form subsequently executed between the parties hereto in conjunction with this Order shall be fully effective. If such insurance is unavailable or partly unavailable under the designated policy, the applicable portion of the charge for Creditor Life Insurance specified herein, and the finance charge thereon, may be deducted from the Total Time Balance and credited to the Purchaser. If such insurance does not become effective, notice thereof will be sent to the purchaser by the Dealer and this Order and any retail installment contract executed in conjunction therewith shall otherwise remain fully effective."

As no Creditor Life Insurance became effective, the Purchaser justifiably relied on the premise that the Purchase Order and concurrently executed "**retail installment contract** executed in conjunction therewith" were fully effective. The face of the Purchase Order contract discloses a \$6052.30 "BALANCE TO FINANCE," for which the *Purchaser* performed by entering into a concurrently executed Purchase Order contract clause 13, or Retail Installment Contract at the *Dealer* comprising the following, among other things:

- a: Remaining **\$5,090.00** purchase price (\$10,890 taxable price-\$5,800 cash=\$5,090) as *Purchaser performance to the Dealer, for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.

II. RELIANCE: GOVERNMENT TO PURCHASER
(~~\$762.30~~ and ~~\$762.30~~, or **\$1524.60**)

168. **CLAIM 32:** Via the *Dealer*, the *Government* performed on the Purchase Order contract *on behalf of the Purchaser* (or assigns) by offering local, state, and federal protections and maintenance of public and streets roads and highways exclusively for motor vehicles, at a sales tax cost of \$762.30 cost based on a taxable motor vehicle new sale transaction price of \$10,890.00. As the aggrieved party, *Plaintiff*, Ms. Richard, seeks full restitution of \$762.30 contract performance by the Government, from the adjudged alien rank infringers, because the *Government* does not encourage foreign corporations defrauding U.S. American citizens of \$10,890 drawn on U.S. banks as the basis for collecting a mere \$762.30 tax share to supplant the true motor vehicle industry with undisclosed and unconstitutional foreign imported adjudged rank "infringing Prius II" articles that may further be counterfeit marked and extrinsically fraudulently self-certified as U.S. National Highway Traffic Safety Administration ("NHTSA") and U.S. Federal Motor Vehicle Safety Standard ("FMVSS") comporting passenger cars/motor vehicles, when they are truly not vehicles of any kind, as actual colorable imitation, at best, which adjudged alien rank infringers, those in privity with them, of and by their counsel(s), are without authority to "make, use, offer to sell, and/or sell" in accordance with 35 U.S.C. § 271(a).

169. **CLAIM 33: Purchaser** (or assigns) performed on the the Purchase Order contract to the *Government*, among others, via the *Dealer*, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle. The face of the Purchase Order contract discloses a \$6052.30 "BALANCE TO FINANCE," for which the *Purchaser* performed by entering into a concurrently executed Purchase Order contract clause 13, or Retail Installment Contract at the *Dealer* comprising the following, among other things:

[B. **PURCHASE ORDER CONTRACT FINANCING** -]

- b: Sales tax in the amount of **\$762.30** as *Purchaser performance to the Government, for which the aggrieved Plaintiff seeks full restitution*, from the

adjudged alien rank infringers.

III. RELIANCE: DOCUMENT PROCESSING TO PURCHASER
(\$150.00 and \$150.00, or \$300.00)

170. **CLAIM 34:** Via the *Dealer*, *Document Processing* entities performed on the Purchase Order contract *on behalf of the Purchaser* (or assigns), by rendering motor vehicle sale related documents, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle, at a cost of \$150.00. As the aggrieved party, Plaintiff, Ms. Richard seeks full restitution of \$150.00 contract performance by the Document Processing entities, from the adjudged alien rank infringers, because *Document Processing* entities may not lawfully process true motor vehicle documents for undisclosed and unconstitutional foreign imported adjudged rank "infringing Prius II" articles that are not motor vehicles and that adjudged alien rank infringers, those in privity with them, of and by their counsel(s), are without authorization to "make, use, offer to sell, and/or sell."
171. **CLAIM 35: Purchaser** (or assigns) performed on the the Purchase Order contract to the *Document Processing* entities, among others, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle. The face of the Purchase Order contract discloses a \$6052.30 "BALANCE TO FINANCE," for which the *Purchaser* performed by entering into a concurrently executed Purchase Order contract clause 13, or Retail Installment Contract at the *Dealer* comprising the following, among other things:
- [B. **PURCHASE ORDER CONTRACT FINANCING** -]
- c: Document Processing fees in the amount of **\$150.00** as *Purchaser performance to the Document Processing entities, for which the aggrieved Plaintiff, Ms. Richard, seeks full restitution*, from the adjudged alien rank infringers.

IV. RELIANCE: TITLE PROCESSING TO PURCHASER
(\$50.00 and \$50.00, or \$100.00)

172. **CLAIM 36:** Via the *Dealer*, *Title Processing* entities performed on the Purchase Order contract *on behalf of the Purchaser* (or assigns), by rendering motor vehicle title documents, for truly undisclosed foreign imported adjudged rank "infringing Prius II," in which the adjudged alien rank infringers had no title to convey to anyone via motor vehicle *Dealer* "sale," at a cost of \$50.00. As the aggrieved party, Plaintiff, Ms. Richard seeks full restitution of \$50.00 contract performance by the Title Processing entities, from the adjudged alien rank infringers, because *Title Processing* entities may not lawfully process true motor vehicle title documents for undisclosed and unconstitutional foreign imported adjudged rank "infringing Prius II" articles that are not motor vehicles and that adjudged alien rank infringers, those in privity with them, of and by their counsel(s), are without authority to "make, use, offer to sell, and/or sell."
173. **CLAIM 37: Purchaser** (or assigns) performed on the the Purchase Order contract to the *Title Processing* entities, among others, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle. The face of the Purchase Order contract discloses a \$6052.30 "BALANCE TO FINANCE," for which the *Purchaser* performed by entering into a concurrently executed Purchase Order contract clause 13, or Retail Installment Contract at the *Dealer* comprising the following, among other things:
- [B. **PURCHASE ORDER CONTRACT FINANCING** -]
- d: Title Processing fees in the amount of **\$50.00** as *Purchaser performance to the Document Processing entities, for which the aggrieved Plaintiff, Ms. Richard, seeks full restitution*, from the adjudged alien rank infringers.

V. RELIANCE: MOTOR VEHICLE RETAIL INSTALLMENT CONTRACT
LENDER TO PURCHASER
(\$9,288.60 and \$9,288.60, or \$18577.20)

174. **CLAIM 38:** Via the *Dealer*, a motor vehicle retail installment contract *Lender*, Wells Fargo Dealer Services, performed in justifiable reliance on the Purchase Order contract in the amount of **\$9,288.60** *on behalf of the Purchaser* (and/or assigns), by providing the \$6052.30 "BALANCE TO FINANCE disclosed on the face of the Purchase Order contract comprising the foregoing:

- a: Remaining \$5,090.00 purchase price
- b: Sales tax in the amount of \$762.30
- c: Document Processing fees in the amount of \$150.00
- d: Title Processing fees in the amount of \$50.00

at an expense of \$3236.30 in finance charges comprising fees and interest, as wholly disclosed in the Purchase Order contract clause 13, or Retail Installment Contract Retail Installment Contract's *Truth-In-Lending Disclosure*, for truly undisclosed foreign imported adjudged rank "infringing Prius II." As the aggrieved party, Plaintiff, Ms. Richard seeks full restitution of \$9,288.60 contract performance by the retail installment contract Lender, from the adjudged alien rank infringers, because motor vehicle retail installment contract *Lenders* may not lawfully finance undisclosed and unconstitutional foreign imported adjudged rank "infringing Prius II" articles, that are not motor vehicles and that adjudged alien rank infringers, those in privity with them, of and by their counsel(s), are without authority to "make, use, offer to sell, and/or sell."

175. **CLAIM 39: Purchaser** (or assigns) performed in three steps on the Purchase Order contract *to the motor vehicle Retail Installment Contract Lender*, among others, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a motor vehicle, among other things:

[B. **PURCHASE ORDER CONTRACT FINANCING** -]

- e. RETAIL INSTALLMENT CONTRACT PAYMENTS:
Purchaser paid some **\$2786.58** in performance to the the Purchase Order contract clause 13, or Retail Installment Contract Retail Installment Contract *motor vehicle Retail Installment Contract Lender* in accordance with the *Truth-In-Lending Disclosure payment schedule* (only eighteen (18) of the 60 agreed payments of \$154.81, from 07/08/2012 to 12/08/2013 date of incident), to partly finance undisclosed foreign imported adjudged rank "infringing Prius II," on the face of the Purchase Order contract, that is not a vehicle, for which the aggrieved Plaintiff seeks full restitution.
- f. AUTOMOBILE/MOTOR VEHICLE INSURANCE (USAA) POLICY -
The face of Purchase Order contract clause 13, or Retail Installment Contract clearly requires under the *Insurance Disclosures* section that:

"Property Insurance. You must insure the Property. You may purchase the required insurance from any insurance company you choose or provide it through an existing policy owned or controlled by you, if the insurance and insurance company are reasonably acceptable to us. The collision coverage deductible may not exceed \$1000.00"

The Purchase Order contract clause 13, or Retail Installment Contract clearly

defines "Property" under the first paragraph of the section entitled *Additional Terms of the Sales Agreement* as:

"" *Property*" means the Vehicle and all other property described in the *Description of Property and Additional Protections* sections."

It further defines "Vehicle" as:

"" *Vehicle*" means each motor vehicle described in the *Description of Property* section."

The alleged "Property" and/or "Vehicle" and/or "motor vehicle" in the description of property section is the subject foreign imported adjudged rank infringing 2009 [Toyota] Prius with HYBRID SYNERGY DRIVE, that was counterfeit marked, and extrinsically fraudulently "self-certified" by the adjudged alien rank infringers.

In justifiable reliance thereon, the *Purchaser* and the supposed December 8, 2013 *owner* (see 49 U.S.C. § 30106(d)(2)(B) (2009) "Rented or leased motor vehicle safety and responsibility. . . . (d) DEFINITIONS. - IN THIS SECTION, THE FOLLOWING DEFINITIONS APPLY: . . . (2) OWNER. - The term "owner" means a person who is - . . . (B) entitled to the use and possession of a motor vehicle subject to a security interest in another person;") Plaintiff, Ms. Richard, performed on the Purchase Order contract clause 13, or Retail Installment Contract's **Property Insurance** clause by entering into an automobile/motor vehicle insurance policy as motor vehicle operators of the insured subject undisclosed unconstitutionally foreign imported adjudged rank infringing article.

After the Prius' total self-destruction with Plaintiff, Ms. Richard inside it, on the December 8, 2013, date of incident, USAA in justifiable reliance performed on the Purchase Order contract clause 13, or Retail Installment Contract **Property Insurance** clause *on behalf of the Purchaser* (and/or assigns) to negotiate a Lender reduction of the outstanding \$6,502.02 (\$9288.60 Lender Performance - \$2786.58 aforesaid) based on the fair market value of undisclosed foreign imported adjudged rank "infringing Prius II" that is not a vehicle on December 8, 2013, just before the incident at issue:

- i. USAA made a payout of **\$4,835.54** toward the outstanding \$6,502.02 (\$9288.60 Lender Performance - \$2786.58 aforesaid) as Purchase Order contract clause 13, or Retail Installment Contract **Property Insurance** clause *Insurer performance to the Lender, for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.
- ii. USAA negotiated/paid **\$1,666.48** (\$6,502.02-\$4,835.54) in UNREQUITED CONTRACTUALLY AGREED UPON **TIME** (42 MONTHS OF FINANCE FEES) FOR WHICH THERE WAS NO LONGER THE FOREIGN IMPORTED UNDISCLOSED ADJUDGED RANK "INFRINGING PRIUS II" THAT WAS NEVER A VEHICLE, *for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.

VI. RELIANCE: PROPERTY INSURANCE ENTITY TO PURCHASER

(\$21302.84 and \$21302.84, or \$42605.68)

176. **CLAIM 40:** Via the *Dealer*, a **Property Insurance** entity, USAA, performed in justifiable reliance on the Dealer Purchase Order contract *on behalf of the Purchaser* (and/or assigns), pursuant to Purchase Order contract clause 13, or Retail Installment Contract **Property Insurance** clause *Insurer performance*, by providing **Property Insurance**, for undisclosed foreign imported adjudged rank "infringing Prius II," in which the adjudged alien rank infringer "Manufacturer(s)" had no title to convey to anyone via motor vehicle *Dealer* "sale," at a cost of **\$21302.84**, for which *Plaintiff, Ms. Richard seeks full restitution of \$21302.84 contract performance by the Property Insurance entity*, from the adjudged alien rank infringers, because motor vehicle and/or automobile *Property Insurance* entities may not lawfully insure undisclosed and unconstitutional foreign imported adjudged rank "infringing Prius II" articles, that are neither motor vehicles, nor automobiles and that adjudged alien rank infringers, those in privity with them, of and by their counsel(s), are without authority to "make, use, offer to sell, and/or sell." *The Property Insurance entity's performance includes, but is not limited to:*
- f. AUTOMOBILE/MOTOR VEHICLE INSURANCE (USAA) POLICY -
 - i. USAA insured/paid **\$4,835.54** of the remaining Purchaser's contractual performance, by payment to the Lender on behalf of the Purchaser, *for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.
 - ii. USAA *negotiated* **\$1,666.48** on behalf of the Purchaser regarding Lender's unrequited 42 mos. of finance fees, *for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.
 - iii. USAA insured/paid **\$4,181.87** of the Purchaser's \$15,088.60 contractually valued undisclosed adjudged U.S. patent infringing foreign imported article (\$5,800 paid to Dealer on signing + \$2,786.58 paid to Lender for 18 mos. + \$6,502.02 in unrequited above Lender payments = \$15,088.60 Purchase Price), by payment to the Purchaser after negotiating in a paradigm of the Purchaser's alleged fair market value in the subject undisclosed adjudged rank U.S. Patent infringing 2009 Prius, *in the moment before the December 8, 2013, date of incident*, coupled with true motor vehicle depreciation after signing, *for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.
 - iv. USAA insured/paid **\$360.00** of the Purchaser's short term loss of use by paying for a car rental, *for which the aggrieved Plaintiff seeks full restitution*, from the adjudged alien rank infringers.
 - v. USAA insured/paid **\$10,258.95** by payment to Plaintiff Ms. Richard's medical providers, that requested some \$42,324.23 in payment for medical services rendered to Plaintiff, Ms. Richard, for serious bodily injuries as proximately cause by blunt force trauma inflicted on her corporeal person by the subject foreign imported undisclosed adjudged unconstitutional rank "infringing Prius II" article, that self-destructed with Ms. Richard inside of it, that was never a true motor vehicle, and that adjudged alien rank infringers, those in privity with them, of and by their counsel(s), were without authority to "make, use, offer to sell, and/or sell," *for which the aggrieved Plaintiff seeks full restitution*, from the defendants.
177. **CLAIM 41: Purchaser** (and/or assigns) performed in six-month cyclic intervals on the Purchase Order contract clause 13, or Retail Installment Contract **Property Insurance** clause to the *Insurer*, for truly undisclosed foreign imported adjudged rank "infringing Prius II" that is not a motor vehicle, among other things:

[B. **PURCHASE ORDER CONTRACT FINANCING** -]

- f. AUTOMOBILE/MOTOR VEHICLE INSURANCE (USAA) POLICY -
Purchaser performed by paying the following time designated, contracted
Property Insurance policy premiums:

May 24, 2012, to May 29, 2012 = *to be determined*

May 29, 2012, to July 25, 2012 = **\$464.08**

July 25, 2012, to January 25, 2013 = **\$459.61**

January 25, 2013, to July 25, 2013 = *to be determined*

July 25, 2013, to January 25, 2014 = **\$576.82**

for which the aggrieved Plaintiff, Ms. Richard, seeks full restitution, from the Defendants.

Purchaser also performed by (1) having diligently sought higher education in the state of New York that has more stringent automobile insurance policy governance for motor vehicle operators, (2) performed in the form of negotiating unrequited time for the prematurely terminated "contract," and (3) performed by providing the Dealer Purchase Order contract that is hereto attached for Plaintiff, Ms. Richard, to seek full restitution in this claim from the Defendants in the amount of the difference between \$21302.84 that was covered under the choice of policy for a motor vehicle and the foregoing premiums actually paid to the Insurer from the May 24, 2012 date of purchase through January 24, 2014, that is to be determined.

178. The foregoing claims to the relatively complete Dealer Purchase Order contract, with its "several [attached] writings (see Restatement, Second, of contracts § 132)," is "a contract that is not to be performed within one year from the making thereof (the one-year provision)." See Restatement, Second, of Contracts § 110(1)(e). This is precisely the case, not only for the sixty-month interval specified by the **Retail Installment Contract** attached to the Dealer Purchase Order contract or the likewise attached annually recurrent **Property Insurance**, but for the fact that **the "Manufacturer," as disclosed in clause 1 of the motor vehicle Dealer Purchase Order contract, never did hold any title, original or otherwise, in UNDISCLOSED adjudged patent infringing foreign imported articles named on the contract, to convey to any Dealer at any time from the making thereof [and/or prior thereto].** Utter lack of any title, whatsoever, specifically renders the instant Purchase Order contract to be "a contract that is not to be performed" ever. See U.C.C. § 2-106 and/or Indiana Code 26-1-2-106(1)(2017) ["A "sale" consists in the passing of title from the seller to the buyer for a price. See Indiana Code 26-1-2-401 ["Sec. 401. Each provision of IC 26-1-2 with regard to the rights, obligations, and remedies of the seller, the buyer, purchasers, or other third parties applies irrespective of title to the goods, except where

the provision refers to such title."]."

179. An exception to unenforceability applies "where denial of enforcement would be unjust because of part or full performance or other reliance by the aggrieved party." See Restatement, Second, of Contracts §§ **8** at comment "*b*." and **138**, at comment "*c*."

180. There are special considerations when:

"(1) A promise or other term of an agreement is unenforceable on grounds of public policy if legislation provides that it is unenforceable or the interest in its enforcement is clearly outweighed in the circumstances by a public policy against the enforcement of such terms" See Restatement, Second, of Contracts § 178(1) and comment "*e*."

181. Plaintiff, Ms. Richard, is party to the Dealer Purchase Order contract as the *Purchaser*, Annette Richard's, "assigns," and for the contract's **Property Insurance** contingency is explicitly identified in the **Property Insurance** policy as an "Operator," and as the *Purchaser's* sister, who suffered serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, and great economic cost to Ms. Richard's public environment in addition to her extreme mental anguish and extreme physical pain, for the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE's 3000lbs. of merely imitation braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and mere imitation of the steering disclosed in **HYPERDRIVE™**, that is collectively and extrinsically fraudulently represented in the Dealer Purchase Order Contract as the "[motor vehicle] Property," that collectively failed with Ms. Richard seated inside of it, on U.S. Interstate-65 near mile marker 115.2 in Indianapolis, Indiana, for which the collective defendants are jointly and severally liable to her.

Assault

182. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 181 of this Complaint.

183. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien

rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the foreign imported adjudged rank infringing "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970 claims 11 and 39, by manufacturing and/or importing, or by "making, using, offering to sell, and/or selling" in the United States the subject some **3000lbs. weighing**, foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," and then extrinsically fraudulently "self-certifying" it to be a NHTSA and FMVSS comports passenger car/motor vehicle.

184. Plaintiff did not consent to the collective above named Defendants' actions.

185. The collective foregoing defendants thereby proximately caused Plaintiff, Ms. Richard to apprehend immediate and harmful blunt force trauma contact with the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE's 3000lbs. of merely imitation braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and mere imitation of the steering disclosed in **HYPERDRIVE™**, that collectively failed with Ms. Richard seated inside of it, on U.S. Interstate-65 in Indianapolis, Indiana near mile marker 115.2, when the collective above named defendants in privity with the adjudged alien rank infringer TMC and TMS and TMNA, of and by their counsel(s), were without authority to "make, use, offer to sell, and/or sell" any such thing, for which the collective defendants in the above entitled action are jointly and severally liable to the Plaintiff, Ms. Richard.

Battery

186. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 185 of this Complaint.

187. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien

rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), that the aforesaid 2006 federal jury trial verdict judgment establishes to be without authority to "make, use, offer to sell, and/or sell" the foreign imported adjudged rank infringing "Prius II" during the federal protection of U.S. Patent 5,343,970, did willfully, recklessly, voluntarily, and intentionally infringe U.S. Patent 5,343,970 claims 11 and 39, by manufacturing by making, using, and/or selling in the United States the subject 3000lbs. weighing, foreign imported, undisclosed adjudged rank infringing 2009 Prius with HYBRID SYNERGY DRIVE, also known as "Prius II," as an extrinsically fraudulently "self-certified" NHTSA and FMVSS comports passenger car/motor vehicle, that battered and forcefully struck the Plaintiff, Ms. Richard's, human body to proximately cause her to suffer blunt force trauma in the course of the 2009 Prius failing to imitate the braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970 that the 2009 Prius infringes and failing to imitate the steering disclosed in **HYPERDRIVE™** that the **HYBRID SYNERGY DRIVE** marks on the 2009 Prius are alleged to infringes, on Interstate-65 near mile mark 115.2 in Indianapolis, Indiana, on December 8, 2013.

188. Plaintiff did not consent to the collective above named Defendants' actions.

189. The blunt force trauma proximately caused Plaintiff, Ms. Richard, to suffer risk of death and actual irreparable serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, in addition to extreme mental anguish and extreme physical pain, for the subject foreign imported 2009 Prius with HYBRID SYNERGY DRIVE's 3000lbs. of merely imitation braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, among other things, and mere imitation of the steering disclosed in **HYPERDRIVE™**, that collectively failed with Ms. Richard seated inside of it, on U.S. Interstate-65 near mile marker 115.2, when the collective above named defendants in privity with the adjudged alien rank infringer TMC and TMS and TMNA, of and by their counsel(s), were without authority to "make, use, offer to sell, and/or sell" any such thing, for which the collective defendants in the above

entitled action are jointly and severally liable to the Plaintiff, Ms. Richard.

INTENTIONAL INFLICTION OF EMOTIONAL DISTRESS

190. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 189 of this Complaint.

191. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), engaged in extreme and outrageous conduct in that despite *Paice I*, *Paice II*, *Paice III*, and ITC Investigation 337-688 establishing that they were "without authority to make, use, offer to sell and/or sell" the subject foreign imported adjudged rank U.S. Patent 5,343,970 claims 11 and 39 "infringing [2009] Prius [II]" with HYBRID SYNERGY DRIVE, they willfully, recklessly, voluntarily, and intentionally disregarded the admonitions of humanity to infringe by manufacturing it anyway as some 3000lbs. of merely imitation braking and acceleration and flow of electrical energy to deploy airbags disclosed in U.S. Patent 5,343,970, that is *non*-motor vehicle among other things, and with mere imitation of the steering disclosed in **HYPERDRIVE™**, that collectively failed with Ms. Richard seated inside of it.

192. The Defendants, of and/or by their counsels feigned remedial domestic motor vehicle defect recalls, to evince a false sense of security in defrauding U.S. motor vehicle operators, while never remedying the counterfeit condition that proximately causes apprehension of risk of death and/or apprehension of serious bodily injury on U.S. public streets roads and highways, after feigning that such imitations are good for planet earth, when in reality they contribute to global warming.

193. Subsequent thereto, the Defendants, of and by their counsels, established a modus operandus of transferring cases arising from truly adjudged U.S. CONST. Art. I, § 8, cl. 8 violations in venues for U.S. motor vehicle defect, whereby they blame victims the defrauded judiciary grants the adjudged alien rank infringers access to U.S. citizens' privileged motor vehicle operator license information and HIPAA and Privacy Act protected medical vital statics and other sensitive asset

information, while blaming victims' inferior driving skills for their own demise in such undisclosed utter imitation that a federal jury already decided that they were "without authority to make, use, offer to sell, and/or sell."

194. The collective proximately caused serious bodily injury, irreparable competitive medical career injury, property damages, and other damages, and great economic cost to Ms. Richard's public environment in addition to her extreme mental anguish and extreme physical pain, for which the collective defendants are jointly and severally liable to her.

MALICE

195. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 194 of this Complaint.

196. The Defendants TMC, TMS, TEMA, TMNA, AISIN, AISIN-AW, DENSO, TICO, TOYOFUJI, TTCO, MITSUI (collectively the "Toyota Enterprise Defendants"), in privity with the adjudged alien rank U.S. Patent 5,343,970 infringer TMC and TMS and TMNA, in privity with the adjudged alien criminals AISIN and DENSO, of and by their counsel(s), engaged in the aforesaid conduct intentionally, maliciously, unjustifiably, wilfully, wantonly, recklessly, and in conscious, deliberate, and utter disregard of Plaintiff, Ms. Richard's, rights, for which the collective defendants are jointly and severally liable to her.

REQUEST FOR RELIEF

197. Plaintiff re-alleges and incorporates by reference the allegations contained in Paragraphs 1 through 196 of this Complaint.

WHEREFORE, Plaintiff requests that this Court render the following relief:

- (a) Grant the transfer of this case to the appropriate federal district court and/or appellate venue(s) of competent jurisdiction as necessary
- (b) Grant judgment in favor of Plaintiff and against the collective above named Defendants as demanded,
- (c) Grant temporary and permanent injunctive relief as is just and appropriate,
- (d) Grant all applicable remedies, monetary or otherwise in favor of the Plaintiff that are provided for by law, including the tolling of any and all applicable statutes of limitations for the adjudged alien rank infringers' fraudulent concealment,
- (e) Award Plaintiff an appropriate amount in monetary damages to be determined at jury

trial, including pre- and post-judgment interest, for the Defendants' conduct that constitutes violations of the U.S. Constitutional, statutory and common laws cited herein to be determined at jury trial, including but not limited to medical and related expenses, property losses, past and future lost earnings, impairment of earning capacity, and pain and suffering,

- (f) Where provided for by law, award Plaintiff treble damages against all Defendants, jointly and severally, in an amount in excess of \$75,000 to be proven at trial together with prejudgment interest, costs, and any attorney's fees,
- (g) Impose exemplary and/or punitive damages against the collective above named Defendants in an appropriate amount to be determined at trial,
- (h) Grant the Plaintiff the right to amend this Complaint as necessary, and
- (i) Grant Plaintiff such other relief as is just and appropriate.

DEMAND FOR JURY TRIAL

Plaintiff hereby requests a jury trial for all issues raised in this Complaint and a jury trial for the determination of damages.

On information and belief, the foregoing is true and correct.

Dated this 5th Day of November 2018

By: /s/ Joyce Richard
Joyce Richard
Plaintiff, *in propria persona*

EXHIBIT 1

United States Patent [19]**Severinsky**[11] **Patent Number:** **5,343,970**[45] **Date of Patent:** **Sep. 6, 1994**[54] **HYBRID ELECTRIC VEHICLE**[76] **Inventor:** Alex J. Severinsky, 10904 Pebble Run, Silver Spring, Md. 20902[21] **Appl. No.:** 947,691[22] **Filed:** Sep. 21, 1992[51] **Int. Cl.⁵** B60K 6/04[52] **U.S. Cl.** 180/65.2; 180/65.6;
180/165; 60/718; 475/2; 475/5[58] **Field of Search** 180/65.2, 65.3, 65.4,
180/65.6, 165; 60/716, 718; 475/2, 5, 8, 9[56] **References Cited****U.S. PATENT DOCUMENTS**

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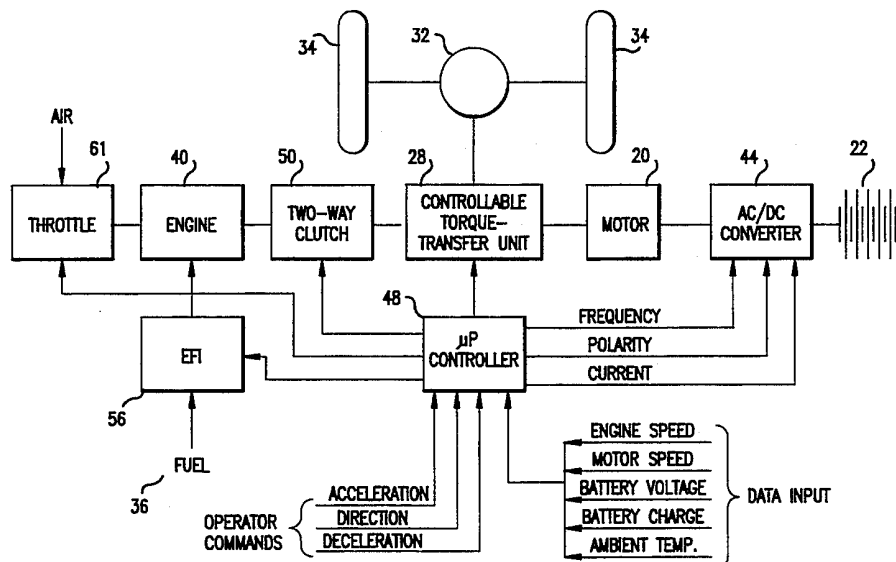
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Primary Examiner—Margaret A. Focarino*Assistant Examiner*—Peter C. English[57] **ABSTRACT**

An improved hybrid electric vehicle includes an internal combustion engine and an electric motor. Both the motor and the engine provide torque to drive the vehicle directly through a controllable torque transfer unit. Typically at low speeds or in traffic, the electric motor alone drives the vehicle, using power stored in batteries; under acceleration and during hill climbing both the engine and the motor provide torque to drive the vehicle; and in steady state highway cruising, the internal combustion engine alone drives the vehicle. The internal combustion engine is sized to operate at or near its maximum fuel efficiency during highway cruising. The motor is operable as a generator to charge the batteries as needed and also for regenerative braking. No transmission is employed. The motor operates at significantly lower currents and higher voltages than conventionally and has a rated power at least equal to that of the internal combustion engine. In this manner a cost efficient vehicle is provided, suffering no performance disadvantage compared to conventional vehicles.

40 Claims, 12 Drawing Sheets

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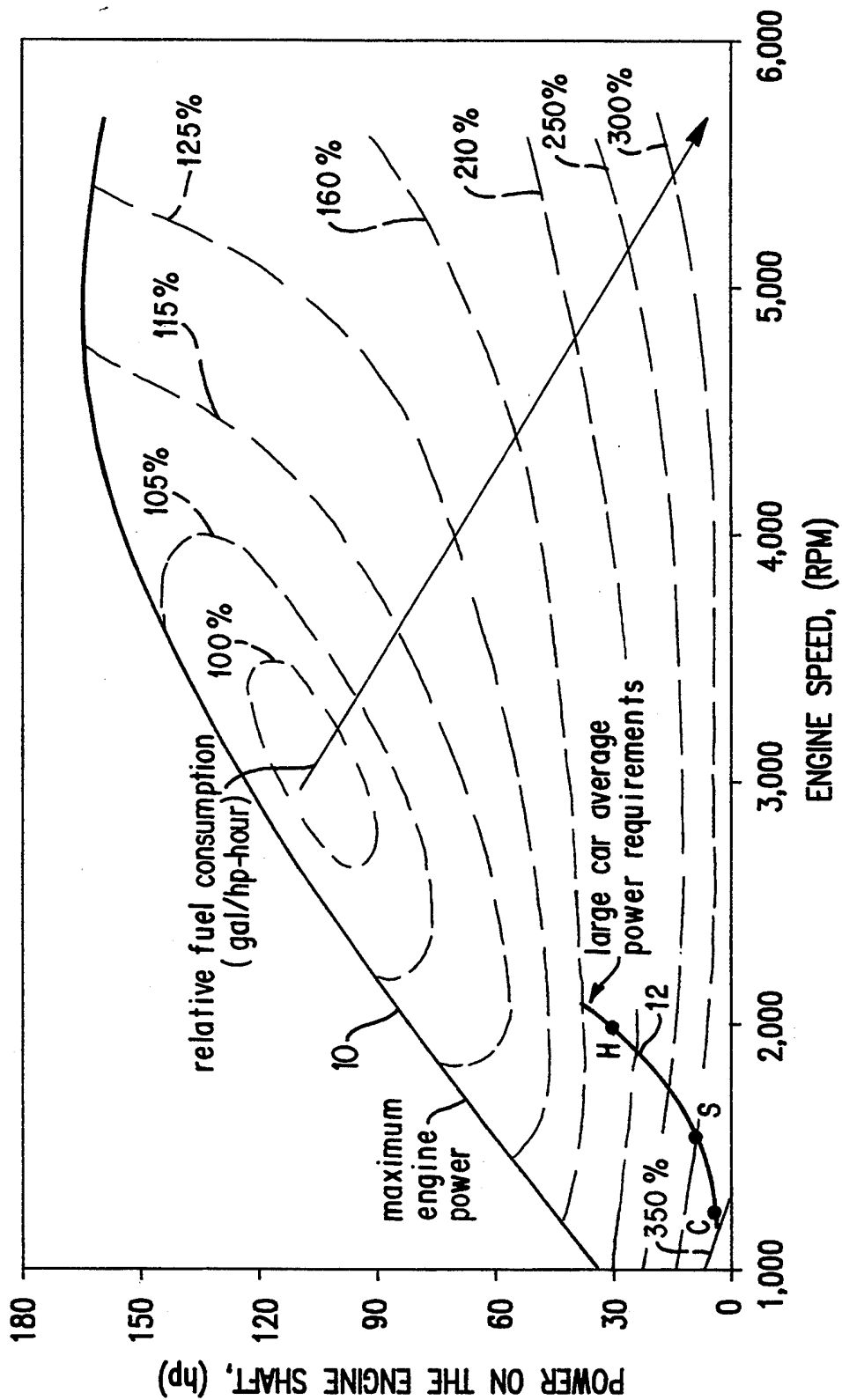


FIG. 1
(PRIOR ART)

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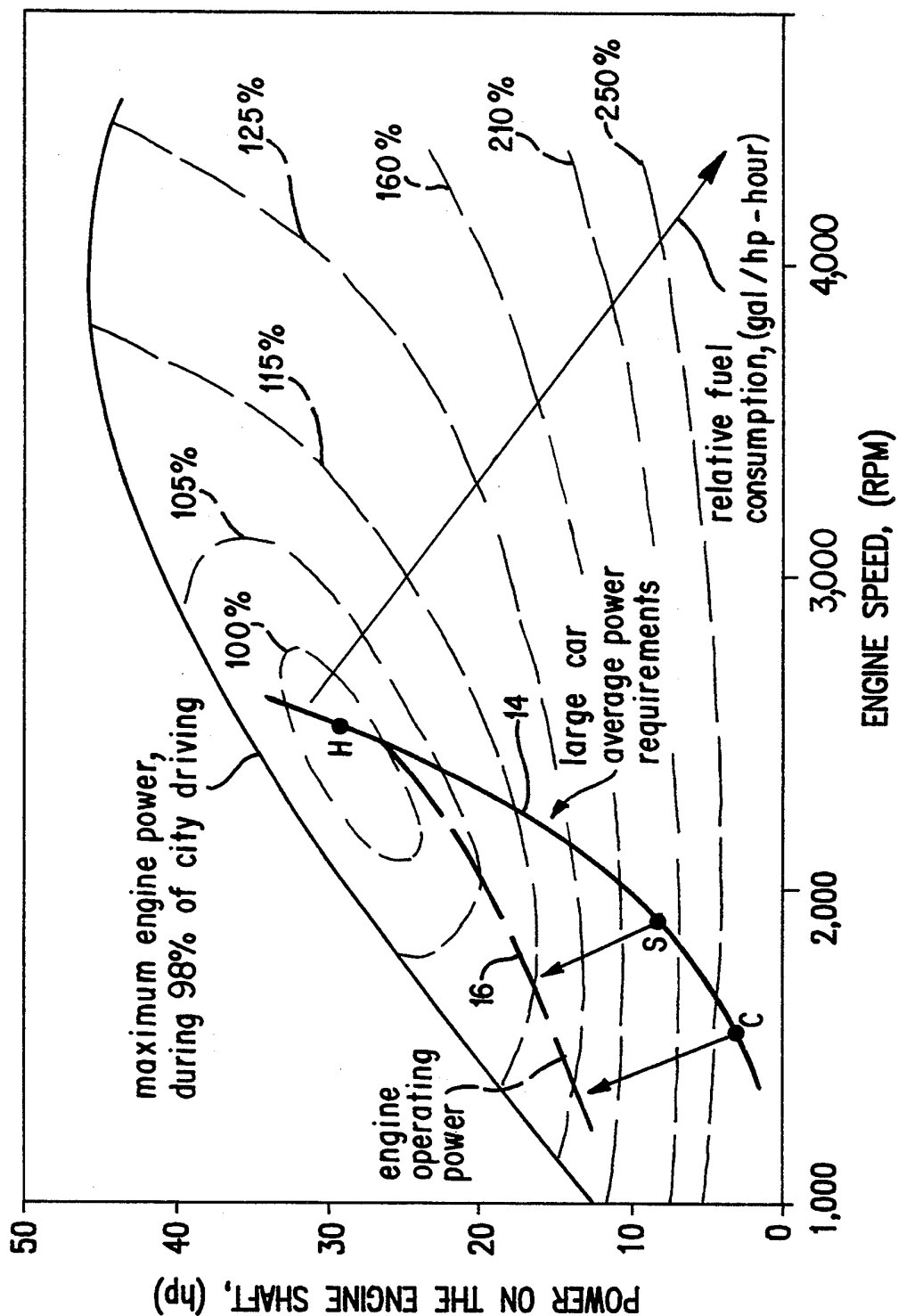


FIG. 2

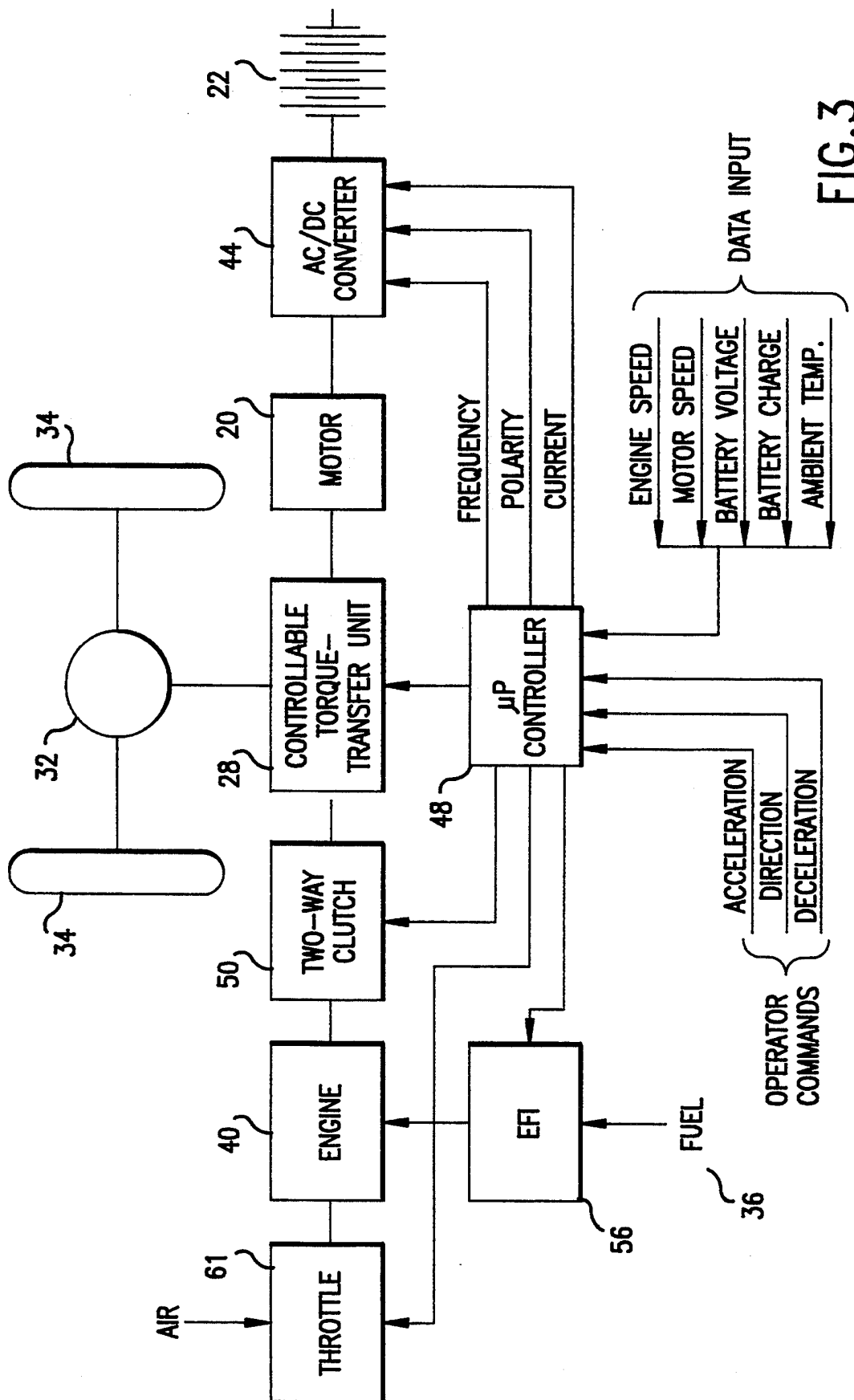
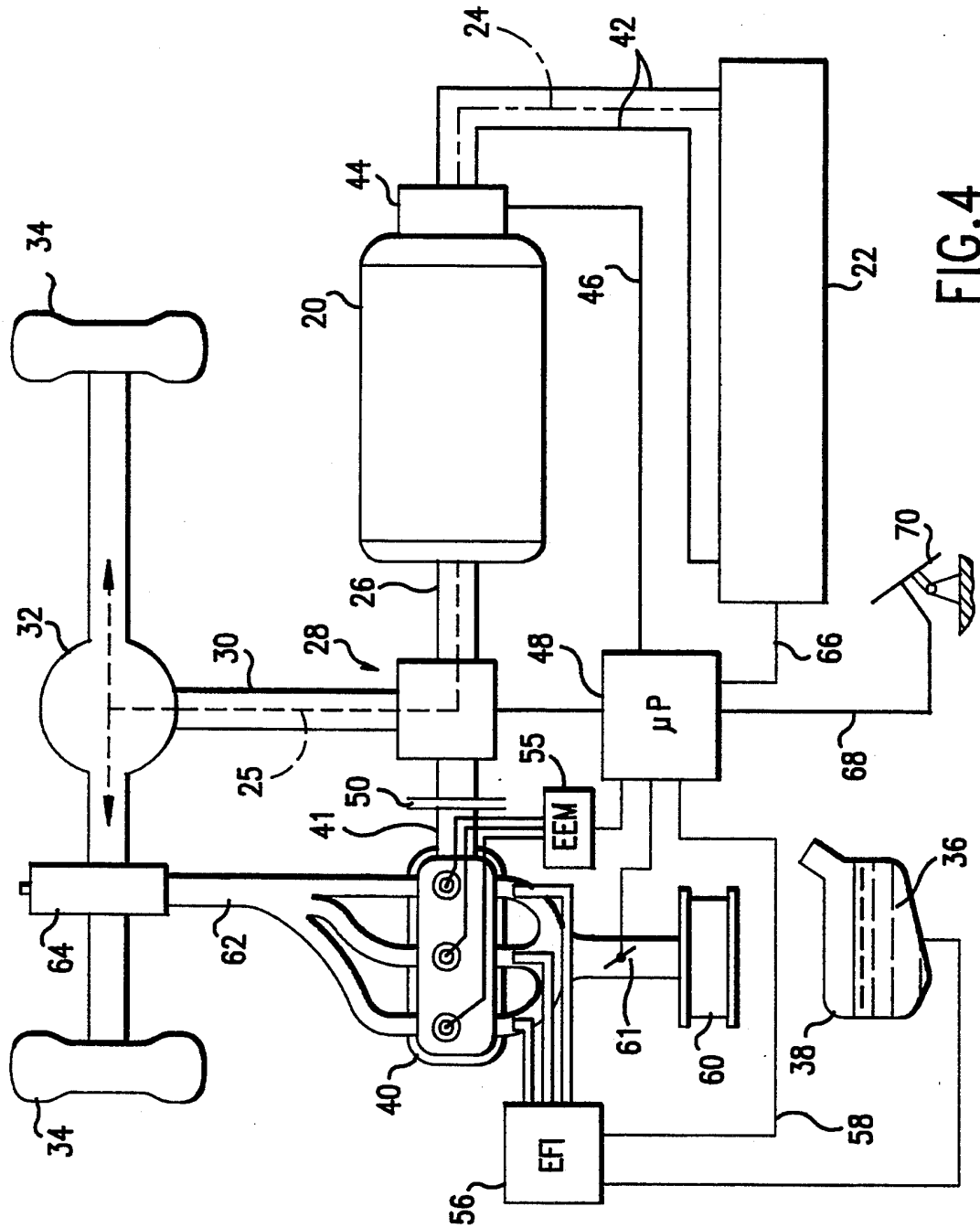
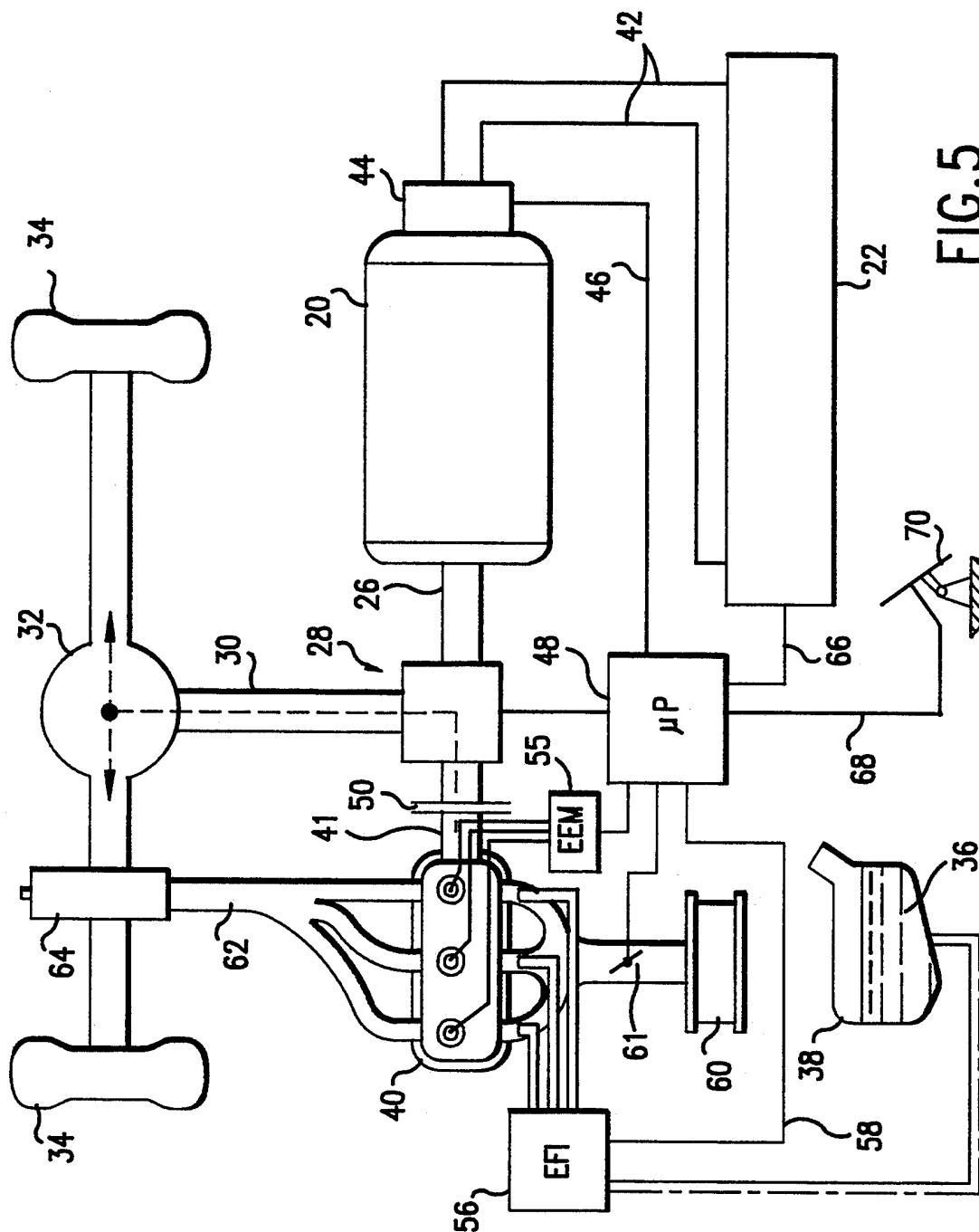


FIG. 3



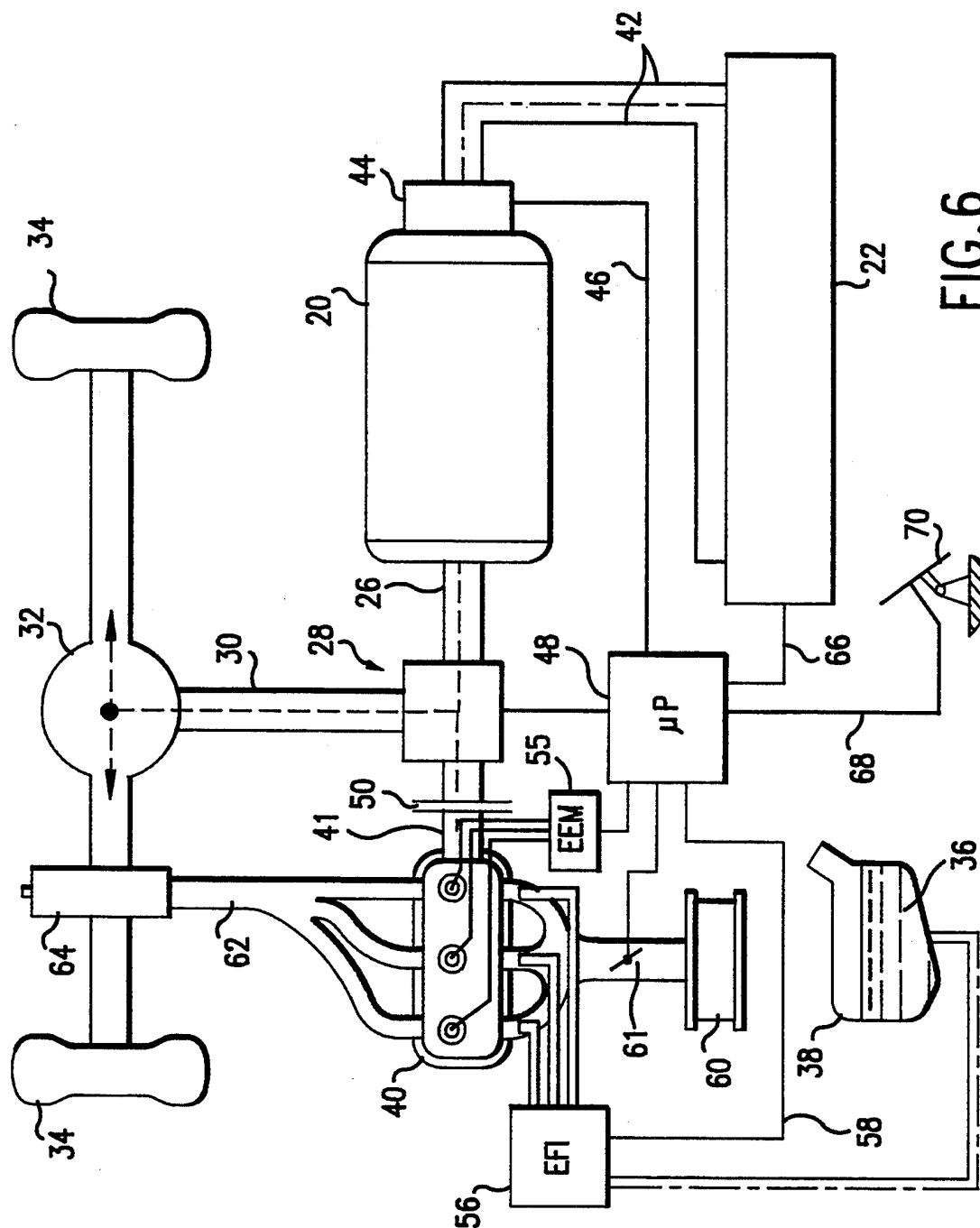


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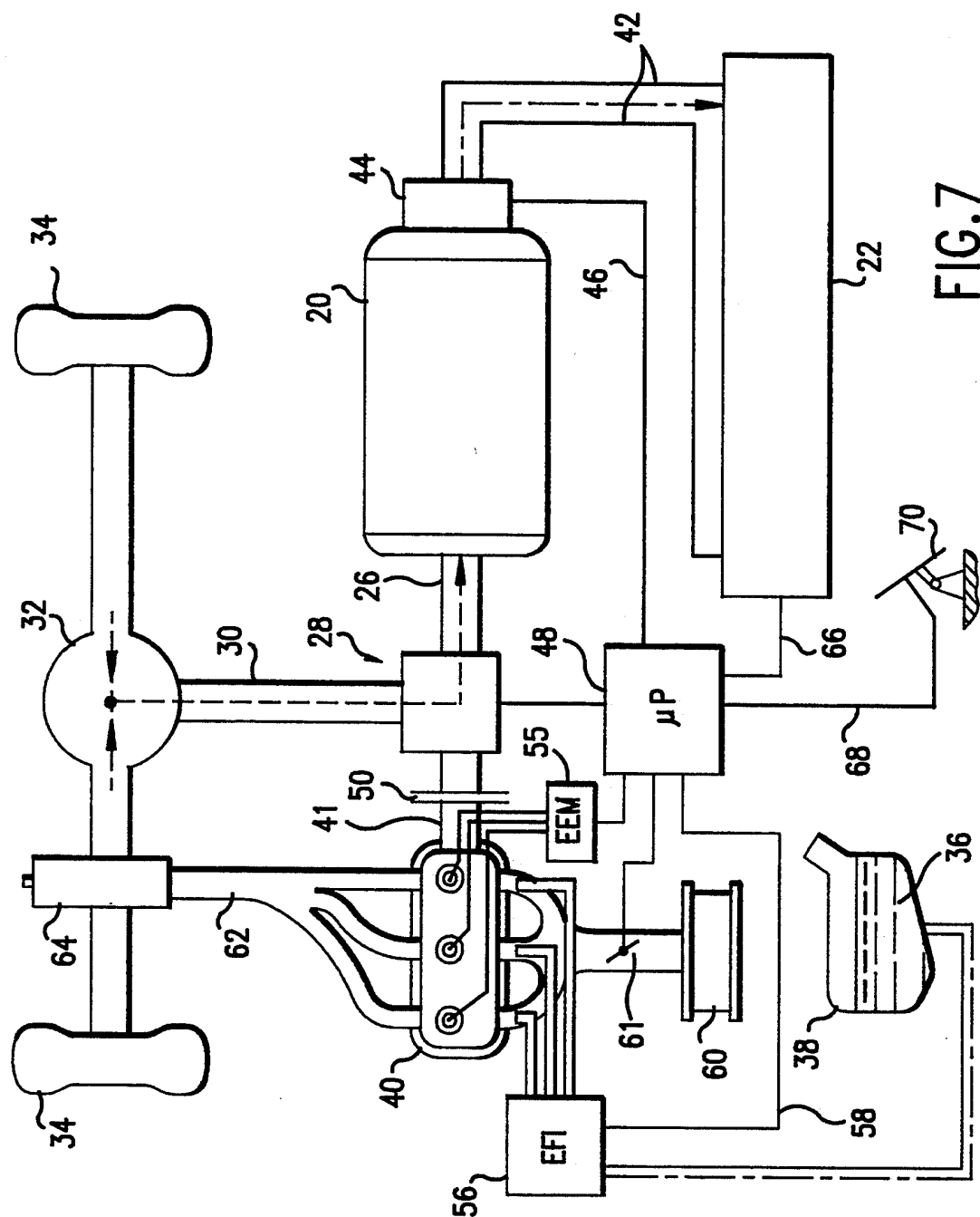


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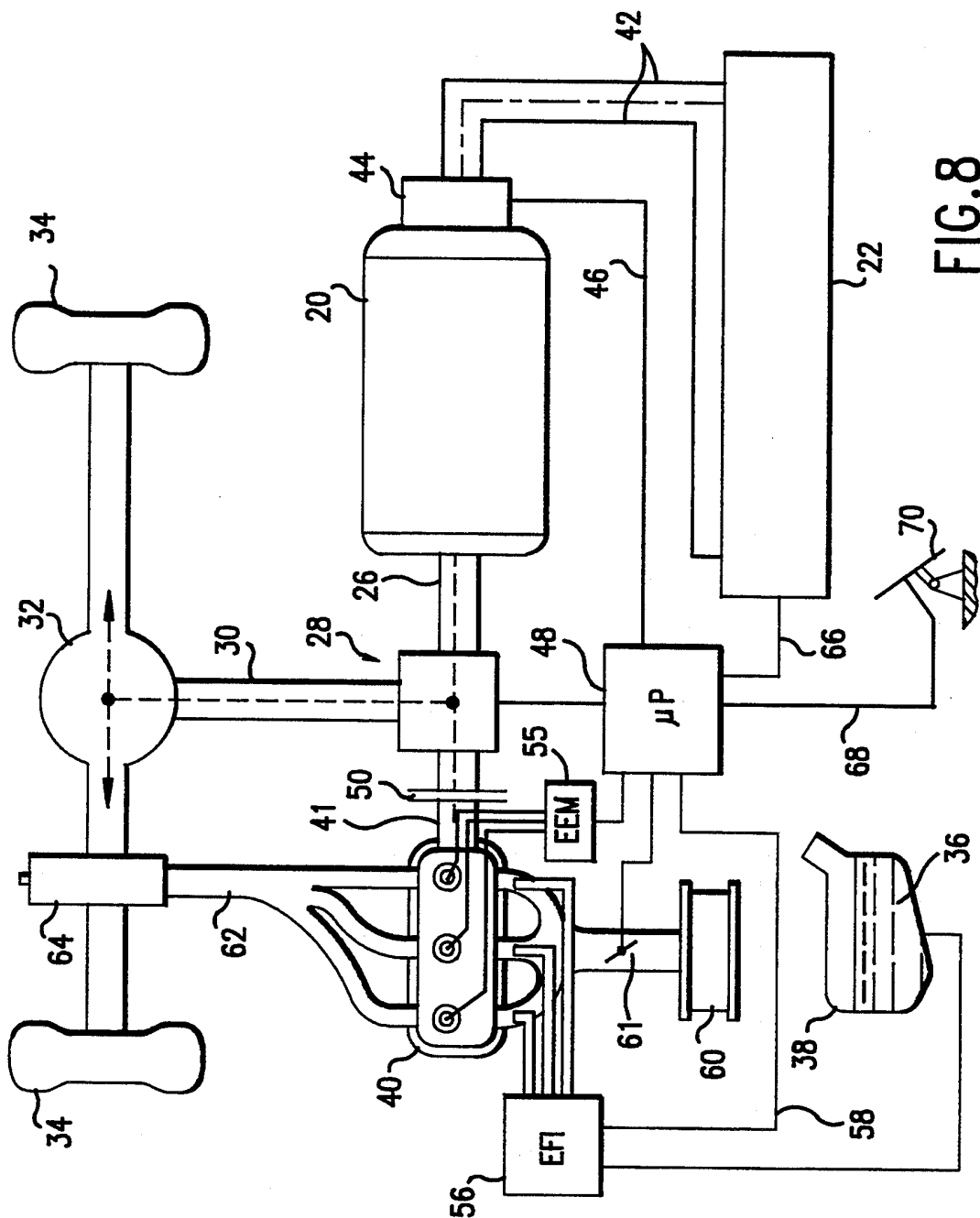


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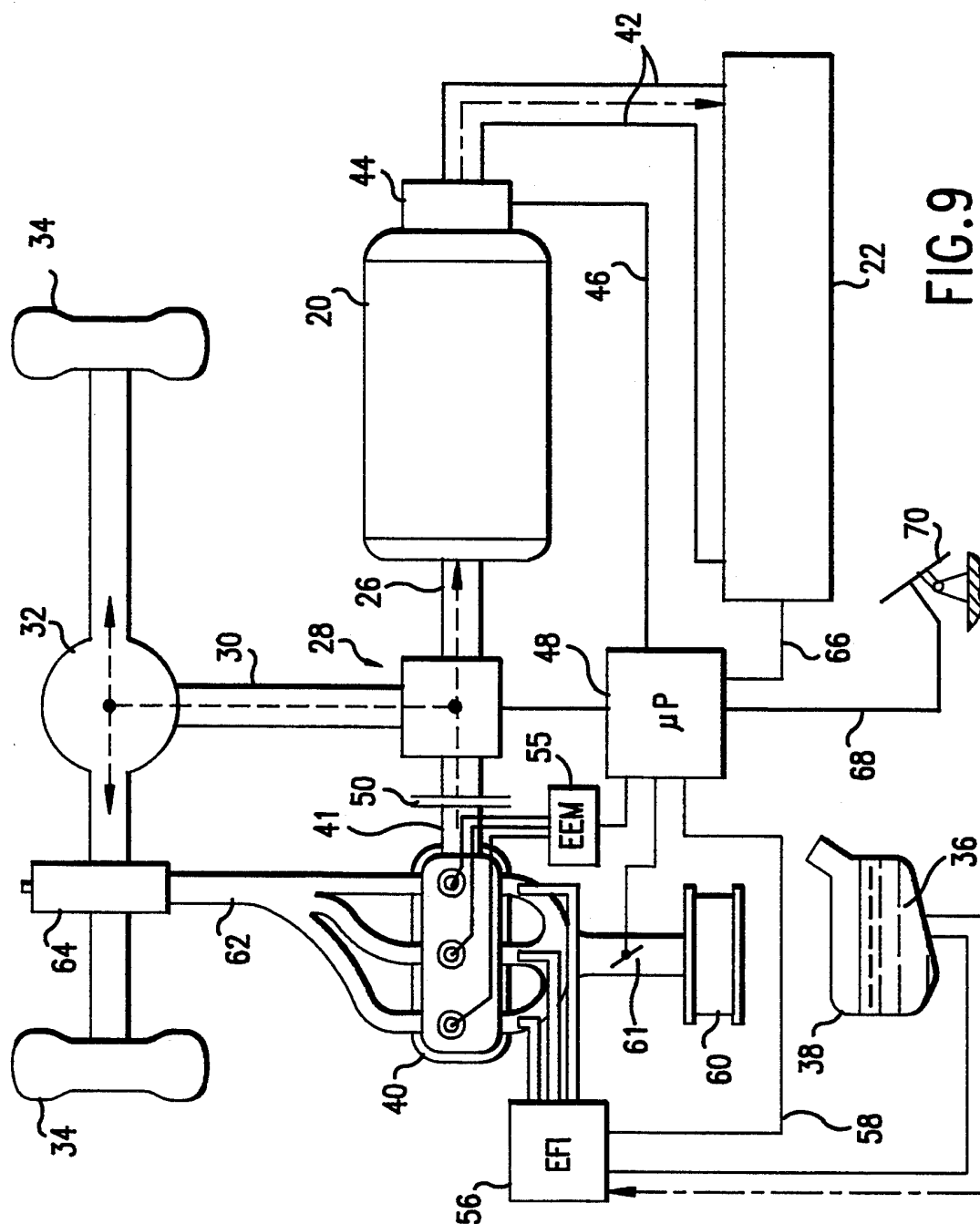


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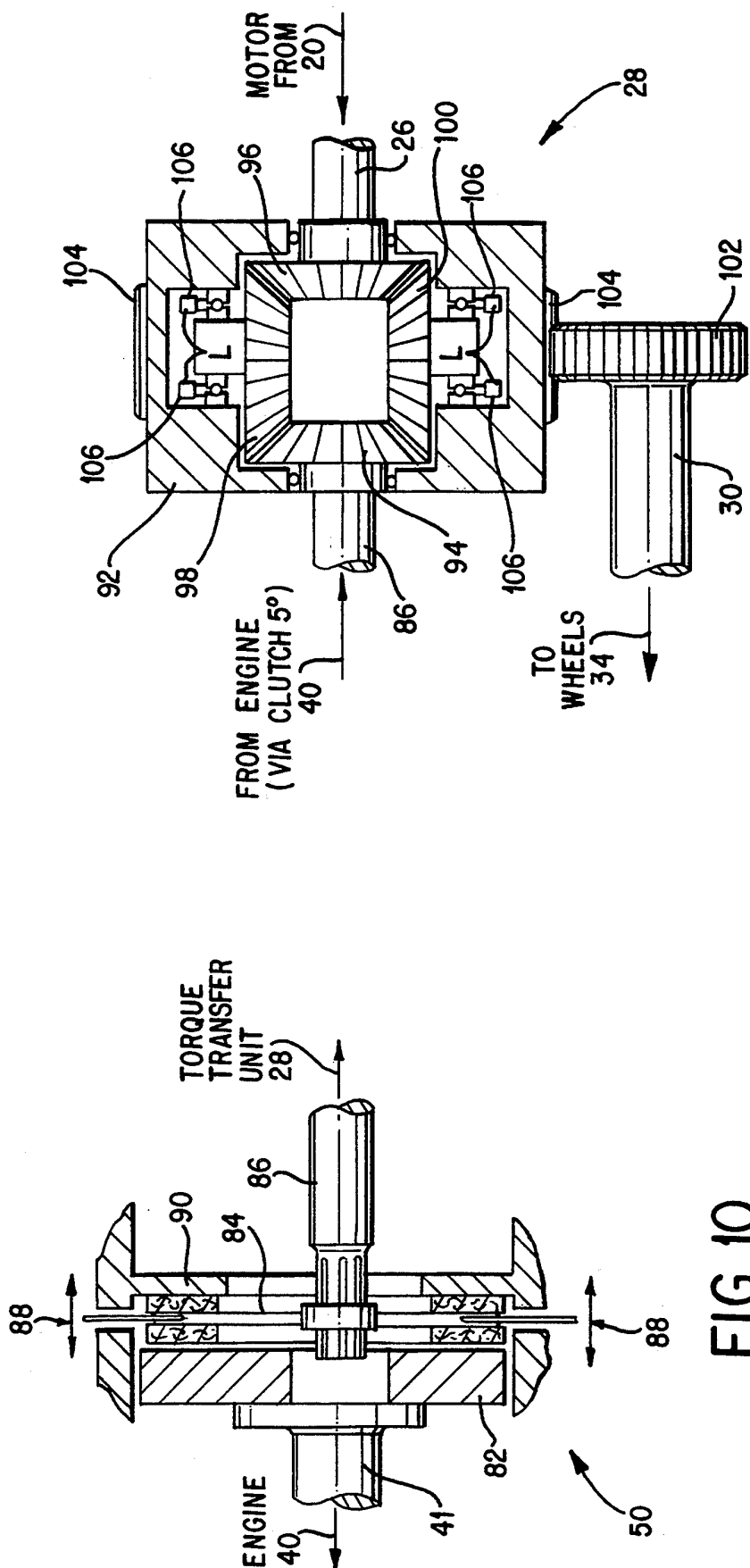
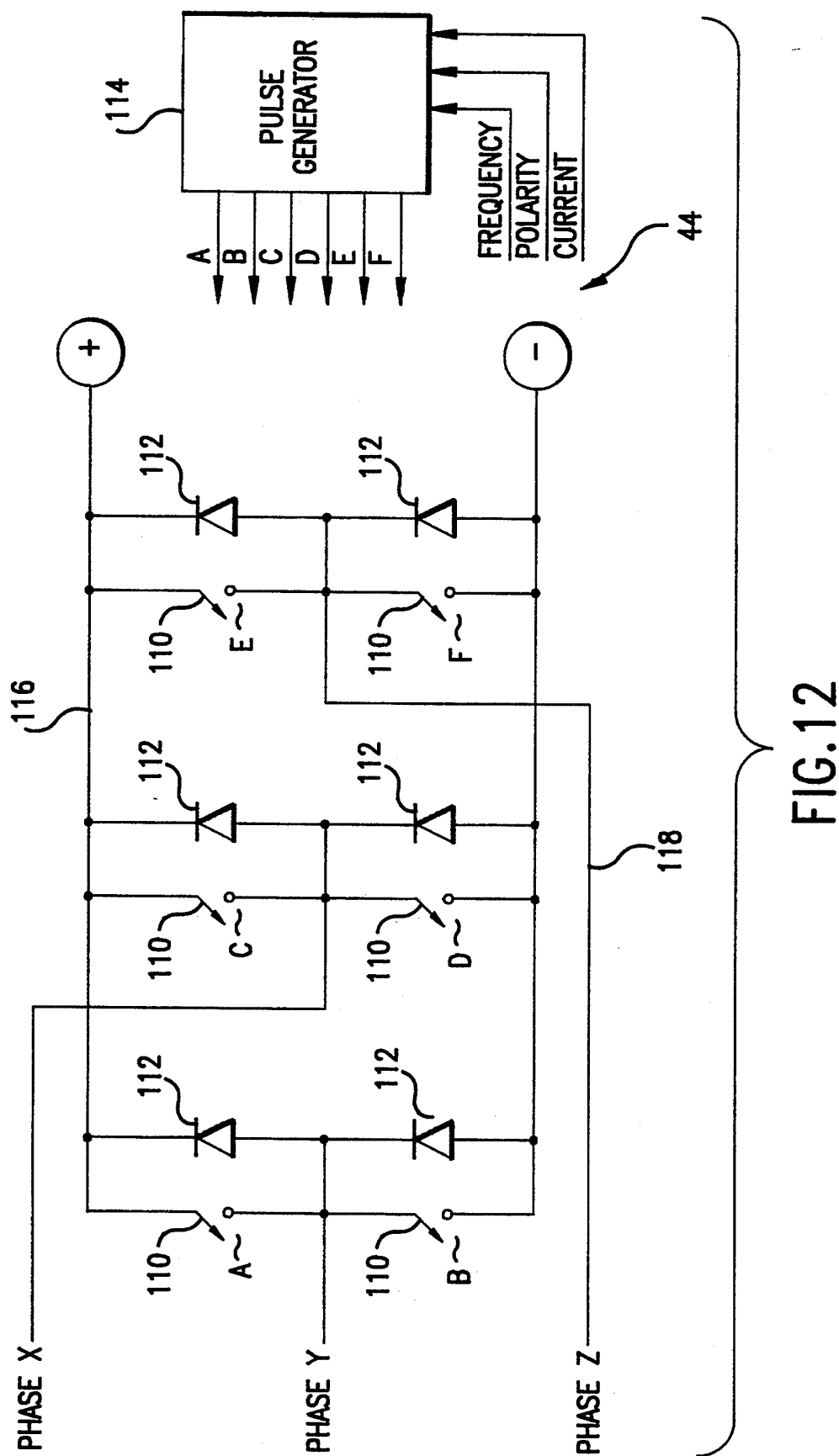


FIG. 11

FIG. 10



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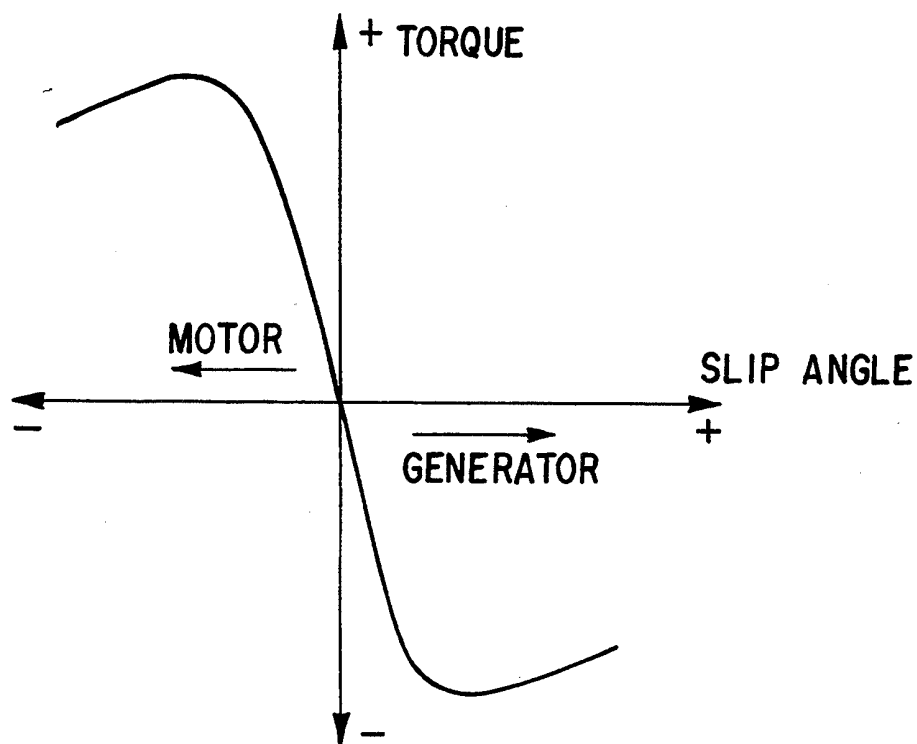


FIG. 13

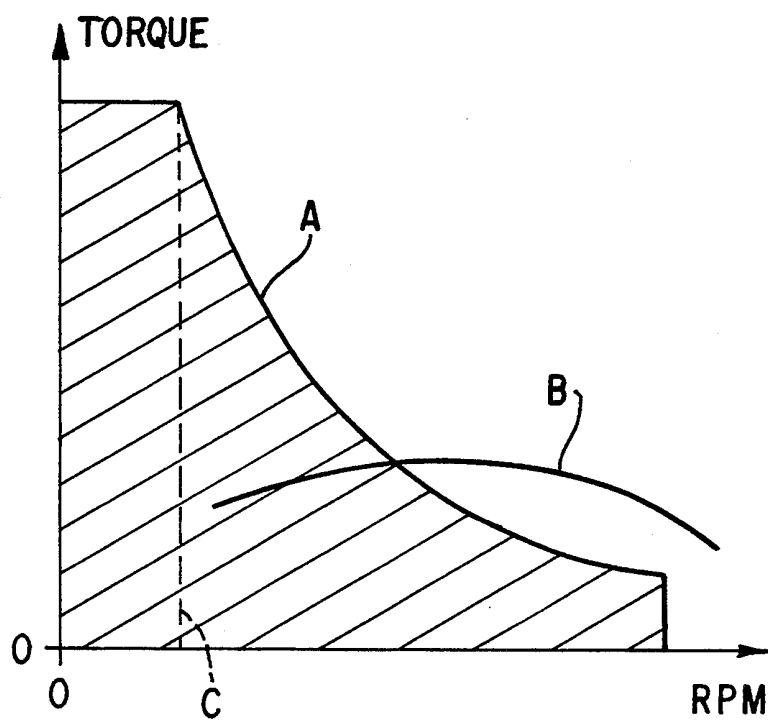


FIG. 14

5,343,970

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HYBRID ELECTRIC VEHICLE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention is in the field of hybrid electric vehicles incorporating both an internal combustion engine, such as a gasoline engine, and an electric motor as sources of torque to drive the vehicle. More particularly, this invention relates to a hybrid electric vehicle that is fully competitive with presently conventional vehicles as regards performance, operating convenience, and cost, while achieving substantially improved fuel economy and reduced pollutant emissions.

2. Discussion of the Prior Art

For many years great attention has been given to the problem of reduction of fuel consumption of automobiles and other highway vehicles. Concomitantly very substantial attention has been paid to reduction of pollutants emitted by automobiles and other vehicles. To a degree, efforts to solve these problems conflict with one another. For example, increased thermodynamic efficiency and thus reduced fuel consumption can be realized if an engine is operated at higher temperatures. Thus there has been substantial interest in engines built of ceramic materials withstanding higher combustion temperatures than those now in use. However, higher combustion temperatures in gasoline-fueled engines lead to increase in certain undesirable pollutants, typically NO_x.

Another possibility for reducing emissions is to burn mixtures of gasoline and ethanol ("gasohol") or straight ethanol. However, to date ethanol has not become economically competitive with gasoline and consumers have not accepted ethanol to any great degree.

One proposal for reducing pollution in cities is to limit the use of vehicles powered by internal combustion engines and instead employ electric vehicles powered by rechargeable batteries. To date, all such electric cars have a very limited range, typically no more than 150 miles, have insufficient power for acceleration and hill climbing except when the batteries are fully charged, and require substantial time for battery recharging. Thus, while there are many circumstances in which the limited range and extended recharge time of the batteries would not be an inconvenience, such cars are not suitable for all the travel requirements of most individuals. Accordingly, an electric car would have to be an additional vehicle for most users, posing a substantial economic deterrent. Moreover, it will be appreciated that in the United States most electricity is generated in coal-fired power plants, so that using electric vehicles merely moves the source of the pollution, but does not eliminate it. Furthermore, comparing the respective net costs per mile of driving, electric vehicles are not competitive with ethanol-fueled vehicles, much less with conventional gasoline-fueled vehicles.

Much attention has also been paid over the years to development of electric vehicles including internal combustion engines powering generators, thus eliminating the defect of limited range exhibited by simple electric vehicles. The simplest such vehicles operate on the same general principle as diesel-electric locomotives used by most railroads. In such systems, an internal combustion engine drives a generator providing electric power to traction motors connected directly to the wheels of the vehicle. This system has the advantage that no variable gear ratio transmission is required be-

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tween the diesel engine and the wheels of the locomotive. More particularly, an internal combustion engine produces zero torque at zero engine speed (RPM) and reaches its torque peak somewhere in the middle of its operating range. Accordingly, all vehicles driven directly by an internal combustion engine (other than certain single-speed vehicles using friction or centrifugal clutches, and not useful for normal driving) require a multiple speed transmission between the engine and the wheels, so that the engine's torque can be matched to the road speeds and loads encountered. Further, some sort of clutch must be provided so that the engine can be decoupled from the wheels, allowing the vehicle to stop while the engine is still running, and to allow some slippage of the engine with respect to the drive train while starting from a stop. It would not be practical to provide a diesel locomotive with a multiple speed transmission, or a clutch. Accordingly, the additional complexity of the generator and electric traction motors is accepted. Electric traction motors produce full torque at zero RPM and thus can be connected directly to the wheels; when it is desired that the train should accelerate, the diesel engine is simply throttled to increase the generator output and the train begins to move.

The same drive system may be employed in a smaller vehicle such as an automobile or truck, but has several distinct disadvantages in this application. In particular, it is well known that a gasoline or other internal combustion engine is most efficient when producing near its maximum output torque. Typically, the number of diesel locomotives on a train is selected in accordance with the total tonnage to be moved and the grades to be overcome, so that all the locomotives can be operated at nearly full torque production. Moreover, such locomotives tend to be run at steady speeds for long periods of time. Reasonably efficient fuel use is thus achieved. However, such a direct drive vehicle would not achieve good fuel efficiency in typical automotive use, involving many short trips, frequent stops in traffic, extended low-speed operation and the like.

So-called "series hybrid" electric vehicles have been proposed wherein batteries are used as energy storage devices, so that the engine can be operated in its most fuel-efficient output power range while still allowing the electric traction motor(s) powering the vehicle to be operated as required. Thus the engine may be loaded by supplying torque to a generator charging the batteries while supplying electrical power to the traction motor(s) as required, so as to operate efficiently. This system overcomes the limitations of electric vehicles noted above with respect to limited range and long recharge times.

However, such series hybrid electric vehicles are inefficient and grossly uneconomical, for the following reasons. In a conventional vehicle, the internal combustion engine delivers torque to the wheels directly. In a series hybrid electric vehicle, torque is delivered from the engine via a serially connected generator, battery charger, inverter and the traction motor. Energy transfer between those components consumes at least approximately 25% of engine power. Further such components add substantially to the cost and weight of the vehicle. Thus, series hybrid vehicles have not been immediately successful.

A more promising "parallel hybrid" approach is shown in U.S. Pat. Nos. 3,566,717 and 3,732,751 to

5,343,970

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Berman et al. In Berman et al an internal combustion engine and an electric motor are matched through a complex gear train so that both can provide torque directly to the wheels.

In Berman et al, the internal combustion engine is run in several different modes. Where the output of the internal combustion engine is more than necessary to drive the vehicle ("first mode operation") the engine is run at constant speed and excess power is converted by a first generator ("speeder") to electrical energy for storage in a battery. In "second mode operation", the internal combustion engine drives the wheels directly, and is throttled. When more power is needed than the engine can provide, a second motor generator or "torquer" provides additional torque as needed.

The present invention relates to such a parallel hybrid vehicle, but addresses certain substantial deficiencies of the Berman et al design. For example, Berman et al show two separate electric motor/generators powered by the internal combustion engine to charge batteries and to drive the vehicle forward in traffic. This arrangement is a source of additional complexity, cost and difficulty, as two separate modes of engine control are required, and the operator must control the transition between the several modes of operation. Further the gear train shown by Berman et al appears to be quite complex and difficult to manufacture economically. Berman et al also indicate that one or even two variable-speed transmissions may be required; see col. 3, lines 19-22 and 36-38.

Hunt U.S. Pat. Nos. 4,405,029 and 4,470,476 also disclose parallel hybrids requiring complex gearing arrangements, including multiple speed transmissions. More specifically, the Hunt patents disclose several embodiments of parallel hybrid vehicles. Hunt indicates (see col. 4, lines 6-20 of the '476 patent) that an electric motor may drive the vehicle at low speeds up to 20 mph, and an internal combustion engine used for speeds above 20 mph, while "in certain speed ranges, such as from 15-30 mph, both power sources may be energized. . . . Additionally, both power sources could be utilized under heavy load conditions." Hunt also indicates that "the vehicle could be provided with an automatic changeover device which automatically shifts from the electrical power source to the internal combustion power source, depending on the speed of the vehicle" (col. 4, lines 12-16).

However, the Hunt vehicle does not meet the objects of the present invention. Hunt's vehicle in each embodiment requires a conventional manual or automatic transmission. See col. 2, lines 6-7. Moreover, the internal combustion engine is connected to the transfer case (wherein torque from the internal combustion engine and electric motor is combined) by a "fluid coupling or torque converter of conventional construction". Col. 2, lines 16-17. Such transmissions and fluid couplings or torque converters are very inefficient, are heavy, bulky, and costly, and are to be eliminated according to one object of the present invention.

Furthermore, the primary means of battery charging disclosed by Hunt involves a further undesirable complexity, namely a turbine driving the electric motor in generator configuration. The turbine is fueled by waste heat from the internal combustion engine. See col. 3, lines 10-60. Hunt's internal combustion engine is also fitted with an alternator, for additional battery charging capability, adding yet further complexity. Thus it is clear that Hunt fails to teach a hybrid vehicle meeting

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the objects of the present invention—that is, a hybrid vehicle competitive with conventional vehicles with respect to performance, cost and complexity, while achieving substantially improved fuel efficiency.

5 Kawakatsu U.S. Pat. No. 4,335,429 shows a parallel hybrid involving a single internal combustion engine and two electric motors to allow efficient use of the electric motors, and is directed principally to a complex control scheme.

10 Numerous patents disclose hybrid vehicle drives tending to fall into one or more of the categories discussed above. A number of patents disclose systems wherein an operator is required to select between electric and internal combustion operation; for example an electric motor is provided for operation inside buildings where exhaust fumes would be dangerous. In several cases the electric motor drives one set of wheels and the internal combustion engine drives a different set. See generally, U.S. Pat. Nos.; Shea (4,180,138); Fields et al (4,351,405); Kenyon (4,438,342); Kröhling (4,593,779); and Ellers (4,923,025).

Numerous other patents show hybrid vehicle drives wherein a variable speed transmission is required. A transmission as noted above is typically required where the electric motor is not capable of supplying sufficient torque at low speeds. See U.S. Pat. Nos.; Rosen (3,791,473); Rosen (4,269,280); Fiala (4,400,997); and Wu et al (4,697,660). For further examples of series hybrid vehicles as discussed above, see generally Bray (4,095,664); Cummings (4,148,192); Kawakatsu et al (4,305,254 and 4,407,132); Monaco et al (4,306,156); Park (4,313,080); McCarthy (4,354,144); Heidemeyer (4,533,011); Kawamura (4,951,769); and Suzuki et al (5,053,632). Other patents of general relevance to this subject matter include Toy (3,525,874); Yardney (3,650,345); Nakamura (3,837,419); Deane (3,874,472); Horwinski (4,042,056); Yang (4,562,894); Keedy (4,611,466); and Lexen (4,815,334).

U.S. Pat. No. 4,578,955 to Medina shows a hybrid system wherein a gas turbine is used as the internal combustion engine to drive a generator as needed to charge batteries. Of particular interest to certain aspects of the present invention is that Medina discloses that the battery pack should have a voltage in the range of 144, 168 or 216 volts and the generator should deliver current in the range of 400 to 500 amperes. Those of skill in the art will recognize that these high currents involve substantial resistance heating losses, and additionally require that all electrical connections be made by positive mechanical means such as bolts and nuts, or by welding. More specifically, for reasons of safety and in accordance with industry practice, currents in excess of about 50 amperes cannot be carried by the conventional plug-in connectors preferred for reasons of convenience and economy, but must be carried by much heavier, more expensive and less convenient fixed connectors (as used on conventional starter and battery cable connections). Accordingly, it would be desirable to operate the electric motor of a hybrid vehicle at lower currents.

U.S. Pat. No. 4,439,989 to Yamakawa shows a system wherein two different internal combustion engines are provided so that only one need be run when the load is low. This arrangement would be complex and expensive to manufacture.

Detailed discussion of various aspects of hybrid vehicle drives may be found in Kalberlah, "Electric Hybrid Drive Systems for Passenger Cars and Taxis", SAE Paper No. 910247 (1991), and in Bullock, "The Techno-

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logical Constraints of Mass, Volume, Dynamic Power Range and Energy Capacity on the Viability of Hybrid and Electric Vehicles", SAE Paper No. 891659 (1989). Further related papers are collected in *Electric and Hybrid Vehicle Technology*, volume SP-915, published by SAE in February 1992. Reference herein to the latter volume does not concede its effectiveness as prior art with respect to the claims of the present application.

It can thus be seen that while the prior art clearly discloses the desirability of operating an internal combustion engine in its most efficient operating range, and that a battery may be provided to store energy to be supplied to an electric motor in order to even out the load on the internal combustion engine, there remains substantial room for improvement. In particular, it is desired to obtain the operational flexibility of a parallel hybrid system, while optimizing the system's operational parameters and providing a substantially simplified parallel hybrid system as compared to those shown in the prior art.

OBJECTS AND SUMMARY OF THE INVENTION

It is an object of the invention to provide an improved hybrid electric vehicle realizing substantially increased fuel economy and reduced pollutant emissions as compared to present day vehicles while suffering no significant penalty in performance, operating convenience, cost, complexity, or weight.

It is a more particular object of the present invention to provide an improved parallel hybrid electric vehicle wherein an internal combustion engine and an electric motor can separately or simultaneously apply torque to the driving wheels of the vehicle, controlled to realize maximum fuel efficiency at no penalty in convenience, performance, or cost.

It is a further object of the invention to provide a parallel hybrid electric vehicle wherein the electric motor provides output power equal to at least 100 percent of the rated output power of the internal combustion engine, and more preferably up to about 150-200 percent thereof, so that the engine operates under substantially optimum conditions in order to realize substantial fuel economy of operation.

More particularly, it is an object of the invention to provide a parallel hybrid electric vehicle wherein the internal combustion engine is sized to efficiently provide the average power required for operation at moderate and highway speeds, with the electric motor sized to deliver the additional power needed for acceleration and hill climbing.

Still another object of the invention is to provide a hybrid electric vehicle wherein the electric motor and battery charging circuits operate at no more than about 30-50 amperes maximum current, whereby resistance heating losses are greatly reduced, and whereby inexpensive and simple electrical manufacturing and connection techniques can be employed.

It is a further object of the invention to provide a solid-state switching power converter for converting DC power provided by the batteries of a parallel hybrid electric vehicle to AC power of higher frequency than conventionally employed for supply to an AC induction motor for powering the vehicle as needed, and for converting mechanical energy provided to the induction motor when operated as a generator to DC energy for charging the batteries as required.

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Other aspects and objects of the invention will become clear as the discussion below proceeds.

The present invention satisfies the needs of the art and objects of the invention mentioned above by provision of an improved parallel hybrid electric vehicle. An internal combustion engine and an AC induction motor are arranged to supply torque through a controllable torque transfer unit to the driving wheels of the vehicle. The motor is driven at relatively high voltage, relatively high frequency, and relatively low maximum current. Energy stored in batteries is transformed into AC drive pulses of appropriate frequency and shape by a solid state switching unit comprising metal oxide semiconductor (MOS) controlled thyristors. No variable gear ratio transmission is required by the vehicle of the present invention, as the AC electric motor provides adequate torque at low RPM. Inefficiencies particularly inherent in automatic transmissions are thus eliminated.

A microprocessor receives control inputs from the driver of the vehicle and monitors the performance of the electric motor and the internal combustion engine, the state of charge of the battery, and other significant variables. The microprocessor determines whether the internal combustion engine or the electric motor or both should provide torque to the wheels under various monitored operating conditions. Typically, the electric motor operates under battery power during low speed operation, e.g., in traffic, during reverse operation, or the like. In this mode of operation, the energy transfer efficiency from the batteries to the wheels is very high. By comparison, it will be appreciated that a vast amount of fuel is wasted as internal combustion engines of conventional vehicles idle uselessly at stop lights or in traffic. This source of inefficiency and pollution is eliminated according to the invention.

As the road speed increases, the internal combustion engine is started, using torque provided by the electric motor through the torque transfer unit, such that no separate starter is required. The internal combustion engine is sized to operate near maximum efficiency during steady state cruising on the highway, at between about 35 and 65 mph; at these times the electric motor is not powered. When necessary for acceleration or hill climbing, the electric motor is operated to add its torque to that provided by the internal combustion engine. Under braking or coasting conditions, the electric motor may be operated as a generator to charge the batteries.

For comparison to an example of the hybrid electric vehicle of the invention, a conventional 3,300 pound sedan is typically powered by a 165 horsepower internal combustion engine driving the rear wheels through an automatic transmission. However, during highway cruising and in traffic, that is, under the most common operating conditions, only 2-30 hp is required. Therefore, the internal combustion engine of a conventional vehicle rarely operates near maximum efficiency. Moreover, as noted, such vehicles are normally driven through notoriously inefficient automatic transmissions; specifically, such transmissions are typically only about 60% efficient during operation in the indirect gears, i.e., during acceleration.

A comparable 3,300 pound sedan according to the invention has an internal combustion engine of about 45 horsepower working in concert with a 65 horsepower electric motor, without a transmission. This combination provides acceleration and hill climbing performance equivalent to a conventional vehicle with a 165

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hp internal combustion engine with automatic transmission, while yielding a 200-300% improvement in net fuel efficiency and at least a similar reduction in pollutants emitted. Moreover, the vehicle of the present invention is no heavier, no more bulky and no more expensive to manufacture than conventional vehicles using standard internal combustion engines.

More particularly, according to the invention, the internal combustion engine is operated only under the most efficient conditions of output power and speed. When the engine can be used efficiently to drive the vehicle forward, e.g. in highway cruising, it is so employed. Under other circumstances, e.g. in traffic, the electric motor alone drives the vehicle forward and the internal combustion engine is used only to charge the batteries as needed. No transmission is required, thus effecting a very substantial saving in both weight and cost. The AC electric motor is controlled to operate as a constant torque source at low motor speeds, and as a constant power source at higher speeds. The motor operates at relatively low currents and relatively high voltage and frequency, as compared with conventional practice. Connections between the battery and the electric motor are substantially simplified through the use of relatively low maximum current, and at relatively resistance heating losses are likewise reduced substantially.

The above and still further objects, features and advantages of the present invention will become apparent upon consideration of the following detailed description of a specific embodiment thereof, especially when taken in conjunction with the accompanying drawings wherein like reference numerals in the various figures are utilized to designate like components.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plot of output power versus rotational speed (RPM) for a typical internal combustion engine, illustrating the relative fuel consumption of the engine as used in a conventional automobile in gallons/horsepower-hour;

FIG. 2 is a similar plot describing operation of a relatively small internal combustion engine used in the present invention under circumstances similar to those depicted in FIG. 1;

FIG. 3 is a block diagram of the parallel hybrid drive system of the invention;

FIGS. 4-9 are schematic diagrams of the hybrid drive system according to the invention operating in different modes and showing flow of energy, in the form of stored electrical energy or fossil fuel, and of power, as torque from either the electric motor or the internal combustion engine;

FIG. 10 is a schematic cross-sectional view of a clutch forming a frictional coupling between one input shaft of a torque transfer unit and either the internal combustion engine or the frame of the vehicle;

FIG. 11 is a schematic cross-sectional view of the torque transfer unit;

FIG. 12 is a schematic circuit diagram of the solid-state switching unit providing AC/DC power conversion, with indication of the control signals provided thereto;

FIG. 13 illustrates the manner of control of the motor as a motor or generator; and

FIG. 14 illustrates the preferred torque versus speed characteristics of the motor as operated with the corresponding preferred AC/DC power converter, and of the internal combustion engine.

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DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring specifically to FIG. 1, curve 10 represents the output power versus engine speed (RPM) of a typical spark ignition gasoline-fueled internal combustion engine as used with an automatic transmission in a typical sedan of 3,300 pounds. As can be seen, the maximum engine power available is about 165 horsepower at about 5,000 RPM. Also shown in FIG. 1 by curve 12 are the average power requirements of such a vehicle. Points C, S and H on curve 12 show average fuel consumption in city, suburban and highway driving, respectively. Point C on curve 12 shows that the average power required in typical city driving is less than 5 hp. Point S shows that the average power consumed in suburban driving is 10 hp, and point H shows that the power needed for steady-speed highway driving is only about 30 hp. Thus, the vehicle is vastly overpowered at all times except during acceleration or hill-climbing.

FIG. 1 also includes curves indicating the relative fuel consumption of the engine. As can be seen, reasonable fuel efficiency, that is, at least about 105 percent relative fuel consumption (100% being ideal), is reached only when the engine is operated at between about 2,000 and 4,000 RPM, when producing between about 75 and 150 horsepower. FIG. 1 thus indicates that the typical internal combustion engine operates with reasonable efficiency only when producing between about 50 and about 90% of its maximum output power. The typical automobile only requires such substantial power under conditions of extreme acceleration or hill climbing. Thus, only during relatively brief intervals is the engine operating efficiently. As can be seen, during typical highway driving, shown by point H on curve 12, the relative fuel consumption is on the order of 190 percent of that required during the most efficient operation of the engine. The situation is even worse in suburban driving, where the relative fuel consumption is nearly 300 percent of the most efficient value, and in city driving, where the relative fuel consumption is almost 350 percent of that required at most efficient operation.

FIG. 1 thus demonstrates that an internal combustion engine having sufficient horsepower for adequate acceleration and hill climbing capability must be so oversized with respect to the loads encountered during most normal driving that the engine is grossly inefficient in its consumption of fuel. As noted, FIG. 1 further shows that only about 30 horsepower is needed to cruise on the highway even in a relatively large car.

FIG. 2 is similar to FIG. 1, and illustrates the operational characteristics of the same 3,300 pound car if driven by a relatively small engine having a maximum horsepower rating of about 45 horsepower at 4,000 RPM. The power requirement of the vehicle during highway cruising, shown by point H on curve 14, is in the center of the most efficient region of operation of the engine. However, even with this small engine thus optimized for highway cruising, there is a substantial gap between the engine operating power line 16 and the average power requirement line 14. That is, even this small engine produces substantially more power at low RPM than needed for city driving (point C) or for suburban driving (point S). Accordingly, even with a small engine sized appropriately for highway cruising, substantial inefficiencies at lower speeds persist. Moreover, of course, such a vehicle would have unsatisfactory

acceleration and hill climbing ability. Therefore, the answer is not simply to replace large internal combustion engines with smaller internal combustion engines.

The prior art recognizes that there are substantial advantages to be gained by combining the virtues of a gasoline or other internal combustion engine with those of an electric motor running from a battery charged by the internal combustion engine. However the prior art has failed to provide a solution which is directly price and performance competitive with vehicles now on the market.

As indicated above, "straight" electric vehicles, that is, vehicles having electric traction motors and batteries requiring recharge at the end of each day's use, do not have sufficient range and require too much time to recharge to fully replace conventional automobiles. Further, the operational costs of such vehicles are not competitive with internal combustion vehicles operated on fuels derived from renewable resources such as ethanol, and are even less competitive with gasoline-fueled automobiles.

A first type of series hybrid vehicles, involving a gasoline engine driving a generator charging a battery powering an electric traction motor, are limited in acceleration and hill climbing ability unless the electric motor is made very large, costly, and bulky. The alternative series hybrid approach, involving a transmission between a relatively smaller electric motor and the wheels to provide the torque needed to accelerate quickly, loses the virtue of simplicity obtained by elimination of a multi-speed transmission. These vehicles fail to realize the advantages provided by the parallel hybrid system in which both an internal combustion engine and an electric motor provide torque to the wheels as appropriate. However, the prior art relating to parallel hybrid vehicles fails to disclose a system sufficiently simple for economical manufacture. The art further has failed to teach the optimum method of operation of a parallel hybrid vehicle.

Moreover, the art relating to parallel hybrids does not teach the appropriate operational parameters to be employed, relating to the relative power outputs of the internal combustion engine and the electric motor; the type of electric motor to be employed; and the frequency, voltage, and current characteristics of the motor/battery system.

According to one aspect of the invention, the internal combustion engine of a hybrid vehicle is sized to supply adequate power for highway cruising, preferably with some additional power in reserve, so that the internal combustion engine operates only in its most efficient operating range. The electric motor, which is substantially equally efficient at all operating speeds, is used to supply additional power as needed for acceleration and hill climbing, and is used to supply all power at low speeds, where the internal combustion engine is particularly inefficient, e.g., in traffic.

FIG. 3 shows a block diagram of the drive system of the vehicle according to the invention. Internal combustion engine 40 is connected by way of a two-way clutch 50 to a controllable torque transfer unit 28. The torque transfer unit 28 receives torque from engine 40 and/or from alternating current electric motor 20 and transmits this torque to the drive wheels 34 of the vehicle by way of a conventional differential 32. The motor 20 receives power from a bi-directional AC/DC power converter 44 comprising a solid-state switching network connected in turn to a battery 22. The battery 22

is charged by power generated by the motor 20 when operated as a generator, that is, when driven by the engine 40 by way of the controllable torque transfer unit 28, or in a regenerative braking mode. A microprocessor controller 48 controls the rate of supply of fuel to engine 40 as indicated at 56, controls the opening of a throttle 61 by which the engine 40 receives intake air from the atmosphere for combusting the fuel, controls the operation of the two-way clutch 50, controls the operation of the torque transfer unit 28, and controls bi-directional flow of power between the battery 22 and the motor 20 through frequency, current, and polarity signals passed to the bi-directional AC/DC power converter 44. The microprocessor 48 receives control inputs from the vehicle operator, namely acceleration, reverse, and deceleration or braking commands, and receives data from sensors monitoring various elements of the system, including data responsive at least to engine speed, motor speed, battery voltage, battery charging status, and ambient temperature input. Other input data may be provided as required. The microprocessor also controls operation of the power converter 44 by way of frequency, current and polarity signals.

As shown in FIG. 3, both the engine 40 and the motor 20 provide torque to the drive wheels 34 by way of the controllable torque transfer unit 28. As will be detailed below, the microprocessor 48 controls the flow of torque between the motor 20, the engine 40, and the wheels 34 responsive to the mode of operation of the vehicle. For example, when the vehicle is cruising along the highway, all torque is preferably supplied from the engine 40. However, when the vehicle starts down a hill, and the operator lifts his foot from the accelerator pedal, the kinetic energy of the vehicle and the engine's excess torque may be used to drive the motor 20 as a generator so as to charge the batteries. If the vehicle then starts to climb a hill, the motor 20 is used to supplement the output torque of engine 40. Similarly, the motor 20 can be used to start the engine 40, e.g., when accelerating in traffic or the like. The various modes of operation of the system will be described below in connection with FIGS. 4-9, after which further details of the various elements of the system are provided.

FIGS. 4-9 are schematic illustrations of the operation of the parallel hybrid vehicle of the invention overcoming the deficiencies of the prior art, each depicting operation of the vehicle under various circumstances. In each of FIGS. 4-9, flow of potential energy—either electrical energy, or combustible fuel—is shown in dot-dash lines, while flow of mechanical energy, that is, torque, is shown by dashed lines.

FIG. 4 illustrates operation in low speed circumstances, e.g., in city traffic or reversing. As noted, the parallel hybrid vehicle drive system according to the present invention includes an electric motor 20 powered by energy stored in a relatively large, high voltage battery pack 22. Energy flows from battery 22 to motor 20 as indicated by a dot-dash line shown at 24. The electric motor 20 provides torque, shown as a dashed line 25, transmitted from the motor output shaft 26 through a torque transfer unit 28 and a drive shaft 30 to a conventional differential 32 and then to wheels 34 of the vehicle. Thus FIG. 4 indicates that the flow of energy in heavy traffic or for reversing is simply from battery 22 to electric motor 20; torque flows from the motor 20 to the wheels 34. Under these circumstances, electric motor 20 provides all of the torque needed to move the vehicle. Other combinations of torque and

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energy flow required under other circumstances are detailed below in connection with FIGS. 5-9. For example, if the operator continues to command acceleration, an acceleration/hill climbing mode illustrated in FIG. 6 may be entered, followed by a highway cruising mode illustrated in FIG. 5.

Referring to some of the details of the overall system shown in FIG. 4, battery 22 is a series-connected battery pack made up of conventional lead acid batteries, or, preferably, bipolar electrode lead acid batteries. Battery 22 is capable of delivering between about 30 and about 50 amperes, and possibly up to 75 amperes. The voltage of the battery pack varies with the weight of the vehicle. For example, the preferred maximum working parameters for a typical 3,300 pound vehicle are about 1200 volts at about 50 amperes. Lighter vehicles according to the invention are preferably operated at lower voltages and similar currents, for reasons of manufacturing convenience and to allow reduction in the number of batteries required. Limiting the current to no greater than 50 amperes allows relatively inexpensive and readily assembled plug-in connectors to be used in lieu of bolted connections required where higher currents are involved, and allows some of the circuitry to be provided in printed circuit form, for manufacturing economy and convenience.

A typical battery pack for a 3,300 pound vehicle will comprise 400-500 pounds of conventional lead-acid batteries. In supply of current to a preferred motor 20 as detailed below, the battery pack will discharge by 40% in 3 minutes in driving the 3,300 pound vehicle up an 8% grade at 62 mph, assisted by a 45 hp engine. This represents entirely adequate performance on a very steep climb. Similar performance can be expected from a 200-250 pound bipolar electrode lead-acid battery pack. High energy capacitors may also be employed for energy storage in the system of the invention.

Energy is supplied from battery 22 by cables 42 to a solid-state switching AC/DC power converter unit 44 preferably comprising six MOS controlled thyristors (MCTs) (see FIGS. 12 and 13) operated responsive to control signals provided along line 46 by microprocessor 48 to convert DC current provided by battery 22 to AC current of appropriate frequency, wave shape and amplitude to operate AC induction motor 20. Such MCTs are solid state switching devices rated at, for example, 2500 volts at 100 amperes; other solid state switching elements having similar capabilities may be employed as suitable. Switching unit 44 also rectifies AC generated by motor 20 when operated as a regenerative brake or generator to charge battery 22 with rectified DC.

The output torque from motor 20 is transmitted by way of torque transfer unit 28 through a conventional differential 32 to the vehicle drive wheels 34, which may be the front or the rear wheels of the vehicle, or all four wheels. An exemplary embodiment of the controllable torque transfer unit 28 is detailed in FIG. 11. A clutch 50 may be provided between engine 40 and torque transfer unit 28, as discussed in connection with FIG. 3. In essence, controllable torque transfer unit 28 is controlled by microprocessor 48 to direct flow of torque between motor 20, engine 40, and wheels 34, as required in each operational mode of the vehicle. For example, in the power flow diagram of FIG. 4, showing operation in a heavy traffic/reversing mode, power is transmitted directly from output shaft 26 of motor 20 to drive shaft 30.

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The engine 40 may be any of a number of types, including two or four stroke, Wankel-cycle, turbine, or more exotic types. Chemical energy is supplied to engine 40 in the form of combustible fuel 36, which may be gasoline, diesel fuel, methanol, ethanol, natural gas, propane, mixtures thereof, or other fuels. To allow engine 40 to be connected to wheels 34 without a variable-speed transmission while being operable over a wide range of road speeds, engine and engine 40 has a relatively "flat" output torque versus RPM characteristic—that is, engine 40 produces substantial torque over a wide RPM operating range. See FIG. 14.

To lower the toxic hydrocarbon and carbon monoxide emissions from combustion, the engine 40 will be operated in lean burn mode (that is, air will be supplied slightly in excess of the amount required for stoichiometric combustion) to achieve complete combustion. To lower nitrogen oxide emissions, the engine will be operated at a lower temperature and thus at slightly reduced thermodynamic efficiency (e.g., 2-3% lower) than is a conventional engine. Only 2 or 3 cylinders will be used in this engine to maintain a high volume-to-surface area ratio within its cylinders, in order to further reduce toxic emissions. That is, because the cylinder walls of any internal combustion engine are cool in comparison with the rest of the combustion chamber, the fuel does not burn as completely along the cylinder walls as elsewhere. Therefore, because an engine of given displacement having fewer cylinders will have a higher ratio of cylinder volume to cylinder surface area, it will emit proportionately lesser quantities of unburned hydrocarbons than one having more cylinders.

At present it is preferred that engine 40 be a gasoline-fueled, spark-ignition, water-cooled three-cylinder four-stroke overhead cam unit of between about 750 cc and one liter capacity producing between forty and sixty peak horsepower at on the order of 6000 RPM. Such an engine can be manufactured using conventional technology, and may be fuel injected or carbureted. However, electronic fuel injection (EFI) is preferred, as indicated at 56, because EFI is readily controlled by control signals received over a line 58 from microprocessor 48. Similarly, the ignition of internal combustion engine 40 may be controlled by an electronic engine management system (EEM) 55 controlled by or integrated with microprocessor 48. The internal combustion engine 40 receives intake air via an air filter 60; the microprocessor 48 may control the amount of air admitted by way of throttle 61, or may measure the amount of air admitted, as in certain conventional EFI systems. Internal combustion engine 40 exhausts burnt gases via a tail pipe 62 and muffler 64. These and other features not discussed in detail may be implemented as conventional in the art.

In addition to controlling the generation of appropriate AC drive pulses via control signals provided to switching unit 44, and controlling electronic engine management system 55 and electronic fuel injection 56, microprocessor 48 also monitors the level of charge of batteries 22 via a line 66 and responds to operator commands received over a control line 68 from operator control input devices, shown schematically as a pedal 70. Thus, as discussed in connection with FIG. 3, microprocessor 48 is provided with all information relevant to the performance of the system, and appropriately controls torque transfer unit 28, internal combustion engine 40, switching unit 28, and electric motor 20 to

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ensure that appropriate torque is delivered to the wheels 34 of the vehicle.

Control of switching unit 44 to appropriately operate motor 20 is within the present skill of the art. For example, numerically controlled machine tools employ microprocessor-controlled synchronous AC motors to provide very precise rotational speeds for accurate control of complex motions. Such precise motor control is not required for practice of the present invention, nor is a synchronous motor required. As the driver's input is an integral element of the system, the driver can make any fine adjustments required simply by varying the pressure exerted on the control input devices 70. Thus, the operator becomes an active feedback element in the control system.

The operator input devices 70 may include accelerator and brake pedals, directional control switches, and the like. Pressure on the accelerator pedal indicates to the microprocessor that more power is required; pressure on the brake causes the microprocessor to initiate regenerative braking, as discussed below. The operator may also be provided with additional input controls, for example, to prevent the microprocessor from shutting off internal combustion engine 40 during braking when the operator anticipates a need for full power. However, in general it is an object of the invention to provide a hybrid vehicle that is "user-transparent", that is, requiring no more operator knowledge or training than does a conventional automobile.

A multipole AC induction motor 20 is preferred over a DC motor due to the well known preferable torque versus speed characteristics of AC induction motors in combination with an appropriate power converter. While both AC and DC motors produce their maximum torque at zero RPM, essential in starting a heavy load from rest without a clutch, the output torque from a DC motor drops linearly with RPM. As shown by curve A of FIG. 14, a multipole AC induction motor provided with drive pulses of the proper type (readily provided by microprocessor 48 controlling switching unit 44) provides constant output torque up to a particular RPM level, e.g., point C in FIG. 14, then hyperbolically decreasing torque while providing constant output power. This torque characteristic is ideal for vehicle propulsion, particularly at low speeds. For example, point C may correspond to a 120 Hz frequency of the AC voltage signal provided by switching unit 44 (see FIGS. 12 and 13) with maximum motor RPM reached at an AC frequency of up to 1000 Hz; more preferably, point C corresponds to a minimum 150 Hz AC frequency, and maximum motor RPM to a maximum AC frequency of 600 Hz. The desired constant-torque characteristics of the output of motor 20 are provided below point C by appropriately shaping the AC drive pulses in known manner. An AC induction motor can readily be operated in reverse, that is, as a generator, simply by controlling the sequence of connection of the phase windings across the DC battery connection. See FIGS. 12-13. By comparison, the torque output by engine 40 is substantially constant over its useful working RPM range, as shown by curve B of FIG. 14. Engine 40 thus provides adequate torque for highway cruising over a wide range of vehicle speeds without the necessity of a multi-speed transmission.

FIGS. 5-9 show operation of the system in other modes. FIG. 5 depicts operation of the system in a highway cruising mode wherein, as indicated above, all torque required to drive the vehicle at normal highway

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speeds (e.g. above about 45 mph) is provided by the internal combustion engine 40 supplied with combustible fuel 36 via EFI unit 56. Thus, energy flow as indicated by the dot-dash line is from the tank 38 through EFI unit 56 into engine 40, while torque flows from engine 40 through torque transfer unit 28, to axle differential 32 and thence to road wheels 34. The engine 40 is coupled to the wheels at a fixed ratio, that is, there is no variable-ratio transmission. As the desired cruising speed may vary somewhat, and as the engine output power required to attain and maintain a given road speed will vary with prevailing wind conditions, road grading and the like, the output torque of internal combustion engine 40 may be directly variable responsive to the operator's control inputs. Microprocessor 48 monitors the operator's inputs and the vehicle's performance, and activates electric motor 20 when torque in excess of the capabilities of engine 40 is required. Conversely, if excess engine torque is available (see the discussion of FIG. 7 below) it can be transformed into electrical energy in motor 20 and stored by battery 22.

FIG. 6 illustrates operation of the system in a high-speed acceleration and/or hill climbing mode, wherein both internal combustion engine 40 and electric motor 20 provide torque to road wheels 34. Accordingly, electrical energy, as shown by the dot-dash line, flows from battery 22 to motor 20; additionally, gasoline or another combustible fuel flows from tank 38 to EFI unit 56 so that both internal combustion engine 40 and electric motor 20 can supply torque indicated by the dashed lines to road wheels 34. Again, microprocessor 48 controls operation of both motor 20 and internal combustion engine 40 through switching unit 44 and EFI unit 56, respectively. Low-speed acceleration—up to about 25 mph—is powered by the motor 20 alone.

FIG. 7 depicts operation of the system in a regenerative braking or coasting mode, wherein electrical energy is generated by motor 20, rectified in switching unit 44 and fed back to charge batteries 22, as indicated by the position of the arrow head on the dot-dash line connecting switching unit 44 to batteries 22. Under the control of microprocessor 48, the regenerative braking/coasting mode can be entered whenever the driver removes his foot from an accelerator pedal and depresses a brake pedal, both indicated schematically at 70, or on downhill stretches. In this mode the kinetic energy of the vehicle is fed back from road wheels 34 and differential 32 via drive shaft 30 to torque transfer unit 28 to electric motor 20; microprocessor 48 controls appropriate operation of switching unit 44 (see FIGS. 12 and 13) to generate rectified DC for storage in battery 22 from AC provided by motor 20.

FIG. 8 illustrates operation of the system during starting, that is, when electric motor 20 starts internal combustion engine 40 from rest. In this case energy flows from battery 22 to switching unit 44, and output torque is supplied by output shaft 26 of motor 20. Since internal combustion engine 40 will typically be started when the vehicle is already under power, e.g., in heavy traffic that requires occasional acceleration, motor 20 simultaneously supplies torque to internal combustion engine 40 for starting it and also to driveshaft 30 to propel the vehicle forward. The fact that microprocessor 48 controls throttle 61, EFI unit 56 and EEM unit 55 ensures quick, smooth starting. When engine 40 has started, microprocessor 48 shifts vehicle operation to the mode of FIG. 6.

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Finally, FIG. 9 illustrates system operation in the battery charging mode. Battery charging takes place automatically, under microprocessor control, responsive to monitoring the state of charge of battery 22 via control signal line 66. Internal combustion engine 40 charges battery 22 by rotating motor 20, providing AC rectified by switching unit 44 to DC suitable for charging battery 22. If this mode is entered during driving, internal combustion engine 40 also supplies torque to road wheels 34, as indicated by the dashed lines.

FIGS. 10 and 11 show respectively a two-way clutch 50 employed to couple the internal combustion engine 40 to the drive train of the vehicle, and the controllable torque transfer unit 28. It will be appreciated that the disclosed embodiments of these and other elements of the vehicle of the invention are exemplary only, and that other devices performing equivalent functions are known to the art and are considered to be within the scope of the invention.

The two-way clutch 50 shown in FIG. 10 receives torque from an engine flywheel 82 fixed to the engine output shaft 41, and includes a double-sided friction disk 84 splined onto an input shaft 86 of the controllable torque transfer unit 28. A throwout mechanism 88 controlled by microprocessor 48 controls engagement of the friction disk 84 with either the flywheel 82 or a stationary plate 90 fixed with respect to the vehicle. Therefore, depending upon the position of the friction disk 84, torque may be transmitted from engine shaft 41 to input shaft 86, or input shaft 86 can be fixed with respect to the vehicle, for reasons made clear below.

FIG. 11 shows one embodiment of the controllable torque transfer unit 28. Again, numerous functionally equivalent devices are known to the art, and are within the scope of the invention. The controllable torque transfer unit 28 comprises four constantly-meshing bevel gears 94, 96, 98 and 100. A first bevel gear 94 is fixed to the input shaft 86 for receiving torque from the engine 40 via clutch 50 (FIG. 10). The second bevel gear 96 is fixed to the motor shaft 26 for receiving torque from the electric motor 20. Bevel gears 94 and 96 are journaled for free rotation about an axis of housing 92. When housing 92 rotates about its axis, torque is transmitted from housing 92 to wheels 34 by drive shaft 30, as indicated schematically by pinion 102 on drive shaft 30 mating with teeth 104 formed on the outer circumference of housing 92. The third and fourth bevel gears 98 and 100 respectively are journaled for rotation in bores in housing 92, and have their axes lying in a plane perpendicular to the axis of housing 92. Locking devices indicated schematically at 106 are provided for control of the rotation of gears 98 and 100 with respect to housing 92. Thus, gears 98 and 100 may be locked with respect to housing 92, or may rotate freely with respect to housing 92. In a preferred embodiment of torque transfer unit 28, locking devices 106 are further controllable to provide substantial torque transfer between gears 98 and 100 and housing 92. Accordingly, rotation of gears 98 and 100 may take place in a "limited-slip" manner, discussed below. The operation of locking devices 106 and accordingly the rotation of gears 98 and 100 with respect to the housing 92 is controlled by microprocessor 48.

When gears 98 and 100 are fixed with respect to housing 92, the torque transfer unit 28 is said to be "locked" or in the "parallel" mode of operation. In this mode, with clutch 50 operated such that engine output shaft 41 is engaged with input shaft 86, both shafts 86

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and 26 rotate at the same rate, and the sum of the input torque provided from engine 40 and motor 20 is transferred to wheels 34 by drive shaft 30.

If it is desired to engage only motor shaft 26 with drive shaft 30, clutch 50 can be operated to decouple input shaft 86 from engine output shaft 41 and lock input shaft 86 to stationary disk 90. In this circumstance, with gears 98 and 100 fixed with respect to housing 92, torque is transmitted directly from input shaft 26 to driveshaft 30.

When gears 98 and 100 are free to rotate within housing 92, the torque transfer unit is said to be operated in a "differential" mode. In this mode, torque from engine 40 may be transferred, for example, to motor 20 operated as a generator to charge battery 22, and also to driveshaft 30, to propel the vehicle forward. More specifically, in the differential mode, if the engine and motor shafts rotate in opposite directions at the same speed, the housing 92 will be stationary. If the speeds of input shafts 86 and 26 differ, torque transferred to housing 92 by spur gears 98 and 100 will cause the housing 92 to rotate at a differential speed. If gears 94, 96, 98 and 100 have equal numbers of teeth, the differential speed at which housing 92 rotates is equal to the difference in speeds of shafts 94 and 96. Equal amounts of torque are transmitted by each shaft, while the flow of power is proportional to the speeds of the corresponding shafts.

By comparison, in the parallel mode, when the planetary gears 98 and 100 are locked with respect to housing 92, housing 92 rotates at the speed of the engine shaft and/or the motor shaft, depending on the operation of clutch 50. The torque transmitted by the housing 92 to pinion 102 is the sum of the torques provided by motor 20 and engine 40 to input shafts 26 and 86 respectively. As noted, pinions 98 and 100 may be locked to housing 92 by locking devices shown schematically at 106. Devices 106 may comprise magnetic or friction clutches for controllably locking gears 98 and 100 to housing 92. Devices 106 are operated by microprocessor 48 so that microprocessor 48 can control the torque transfer unit 28 in accordance with the selected operational mode of the vehicle of the invention.

In a further preferred embodiment, locking devices 106 may provide a fixed or variable amount of slip between gears 98 and 100 and housing 92, whereupon torque transfer unit 28 is said to be operated in a "limited-slip" or "limited-slip differential" mode. In this mode of operation, while gears 98 and 100 rotate with respect to housing 92, their rotation is not free. For example, a fraction of the torque imparted to gears 98 and 100 from input shaft 41 may be transferred to housing 92 by frictional engagement (for example) of locking devices 106. This fraction of the total torque drives the vehicle forward; the remainder is transferred to motor 20 and is employed to charge the battery. Thus, in the limited-slip mode of operation of torque transfer unit 28, the rotational speed of housing 92 is not an algebraic sum of the speeds of shafts 26 and 86 (as in the cases of the parallel and differential modes of operation of torque transfer unit 28), but is controlled responsive to the amount of slip provided by locking devices 106. The amount of slip may be controlled by the microprocessor, or may be fixed. By thus providing a controlled amount of slip between the gears 98 and 100 and housing 92, the flow of torque between engine 40, motor 20 and output shaft 30 may be precisely controlled.

More specifically, on occasion it will be desired to charge the batteries while driving the vehicle forward,

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e.g. in slow traffic. In this mode, the engine output power is divided in order to propel the vehicle forward and to charge the batteries. Locking devices 106 allow differential operation of the gears within the housing 92 and therefore allow the power output by the engine to be divided as determined to be appropriate by microprocessor 48. Furthermore, by controlling the duty cycle and frequency of operation of the switching elements of controller 44 (see FIGS. 12 and 13), the load provided by the motor to the engine can be controlled. Thus, at all times the microprocessor 48 may determine the load (if any) to be provided to the engine by the motor, responsive to the load imposed by the vehicle's propulsion requirements, so that the engine 40 can be operated in its most fuel efficient operating range.

Summarizing, it will be recalled that according to an important object of the invention, the present hybrid electric vehicle does not employ a multi-speed transmission. Accordingly, the ratios of the rates of rotation of the engine 40 and motor 20 to those of the respective input shafts of torque transfer unit 28, and the ratio of the rates of rotation of the housing 92 and of the wheels 34, are fixed. However, it is within the scope of the invention to employ constant-ratio reduction gears, for example, between motor 20 or engine 40 and torque transfer unit 28. Further, it will be appreciated that in the differential mode of operation the ratio of the rate of rotation of housing 92 to the difference between the rates of rotation of the input shafts is fixed; in the limited-slip differential mode of operation, this latter ratio may alternatively be controlled to assume a second fixed value, or may be variable under microprocessor control.

In further explanation of the operation of the vehicle of the invention, there are typically two modes of operation at slow speed, that is, at up to about 25-35 mph, depending on the state of charge of the battery 22. Because the engine 40 is cycled on and off in this speed range when the average power demand is small, in one mode the system is operated as a pure electric drive system (as in FIG. 4) and in the other mode it is operated as a differential drive system.

When the battery 22 is fully charged, and the vehicle speed is below about 25-35 mph, the microprocessor 48 disconnects the engine 40 from the drive and shuts it off. Under these circumstances only the motor 20 provides power to drive the vehicle. If the brake pedal is depressed by the driver, the microprocessor 48 causes the motor frequency to advance, so that motor 20 performs as a generator to recover some of the braking energy back into the battery. See FIGS. 12-13. Up to 40-50% on average of the vehicle's kinetic energy may thus be recovered and stored in battery 22. Excess braking energy is still dissipated by the brake pads of the vehicle.

By comparison, if the battery is discharged by 10-20% and the vehicle speed is below 25-35 mph, the microprocessor 48 actuates the two-way clutch 50 (see FIG. 10) to connect the engine 40 to the torque transfer unit. Then the motor 20 will start the engine 40 while driving the vehicle, with the microprocessor 48 providing optimal starting conditions as above. Locking devices 106 are released, such that the torque transfer unit 28 operates in differential mode. The microprocessor 48 then controls the speeds of both the engine 40 and the motor 20 such that the difference in speed of their output shafts is equal to the speed required by the driver for vehicle propulsion. As noted, engine speed is controlled

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such that engine 40 provides 60-90% of its maximum power over a wide range of vehicle speeds. Excess power is used to recharge the battery 22. The microprocessor 48 controls the switching network 44 so that the motor 20 acts as a generator to charge the battery. See FIGS. 12-13. The microprocessor 48 monitors the state of battery charge and terminates this mode of driving when the battery is fully recharged.

According to a preferred implementation of the invention, microprocessor 48 monitors the state of charge of batteries 22 via line 66 and recharges the batteries whenever the charge is depleted by more than about 10-20%. Such frequent light charges result in improved battery life as compared to regularly allowing the batteries to be nearly fully discharged, followed by a lengthy recharge period, as is necessary in operation of entirely electric vehicles. Under conditions of maximum battery usage, e.g., in heavy traffic, the duty cycle of the internal combustion engine for battery charging is 10-20%; that is, in traffic, internal combustion engine 40 charges the battery perhaps once per hour for a period of approximately twelve minutes.

It is within the scope of the invention to operate the engine 40 outside its most fuel efficient operating range, on occasion. For example, if the torque transfer unit does not provide a limited-slip mode of operation the combined load of low-speed vehicle operation in traffic together with battery charging may be less than the minimum power produced by the engine in its most efficient operating range. In these circumstances, it is preferable to use the engine somewhat inefficiently rather than to discharge the batteries excessively, which would substantially reduce the battery lifetime.

At moderate speeds, as experienced in suburban driving, the speed of the vehicle on average is between 30-45 mph. The vehicle will operate in a highway mode with the engine running constantly after the vehicle reaches a speed of 30-35 mph. The engine will continue to run unless the engine speed is reduced to 20-25 mph for a period of time, typically 2-3 minutes. This speed-responsive hysteresis in mode switching will eliminate nuisance engine starts.

FIG. 12 shows one circuit for the solid-state switching AC/DC converter/motor controller unit 44. As indicated above, the principal functions of switching controller unit 44 are to convert DC provided by batteries 22 into appropriate AC pulses for operation of motor 20, and similarly to convert AC provided by motor 20 where operated as a generator to DC for charging battery 22. The circuit illustrated in FIG. 12 for carrying out these functions is a three-phase bridge circuit comprising six solid-state devices 110 operated as switches responsive to control signals A-F. Switching devices 110 are in parallel with six flyback diodes 112. In this embodiment, motor 20 comprises three phase windings which are connected to the lines marked Phases X, Y and Z. Positive and negative bus lines 116 and 118 marked + and - are connected to the battery 22. The motor phases are connected to the bus lines 116 and 118 by solid-state switches 110 at appropriate times by signals A-F. In the embodiment of FIG. 12, signals A-F are provided by a controller 114 responsive to desired frequency, polarity and pulse width or output current signals provided by microprocessor 48. The frequency command establishes the synchronous speed of the motor, the polarity command establishes the direction of rotation, and the pulse width or current command establishes the output torque within the

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torque envelope shown by curve A of FIG. 14. It will be appreciated that controller 114 could also be configured as part of microprocessor 48 if convenient. Switches 110 are thus controlled responsive to the desired frequency, polarity, and current signals to connect the various phase windings of AC induction motor 20 to operate as a motor or generator.

FIG. 13 indicates that the operation of motor 20 as a motor or a generator is a function of the "slip" or "space phase" angle. The slip angle is the ratio of the difference between the loaded shaft speed and a desired synchronous speed to that synchronous speed. When the motor is unloaded the output torque is zero, and the slip angle is zero. When the motor is loaded the slip angle becomes negative and the motor generates torque, that is, acts as a power source. If the AC frequency is changed, the synchronous speed will change accordingly. If this frequency change is such that the slip angle becomes positive, the motor will produce negative torque, i.e., will act as a generator and will become a load. Therefore, by appropriately altering the AC frequency, power is generated, charging the battery. In the generating mode, net current flow is through the diodes 112 from the three phase windings to the DC battery to be charged. When the motor 20 is being operated as a torque source, in the "motoring" mode, current is transmitted from the DC input to the three phases of the motor; each of the semi-conductor switches 110 and the diodes 112 conduct during each cycle, and the net current flow is through the semi-conductor switches 110.

Several different types of semi-conductor switching devices are suitable for the switching elements 110 of the solid-state switching power converter 44; these devices include silicon controlled rectifiers (SCRs), gate turnoff thyristors (GTOs) and MOS controlled thyristors (MCTs). The preferred embodiment currently employs MCTs, with GTOs as the second choice.

As indicated above, for minimum cost and minimum losses the electrical circuits connecting the battery and the motor via the controller should operate at low current and relatively high voltage. The current should be less than 75 amperes and is preferably in the 30-50 ampere range; in the example given above of a 60-80 horsepower motor operating at 50 amperes maximum current to power a 3,300 pound vehicle, the DC voltage will be 1,000 to 1,400 volts. Typical maximum voltages corresponding to light and heavy vehicles are between 500 and 1,500 volts. The battery capacity may also be varied in accordance with the intended use of the vehicle; for example, vehicles sold for intended use in flat terrain will normally require less battery capacity than those for use in mountainous terrain.

Having thus summarized the operation of the hybrid vehicle of the invention, certain further aspects of the invention can be discussed. FIGS. 1 and 2 indicate that an internal combustion engine 40 of about forty-five horsepower will be adequate to provide sufficient power for cruising in a 3,300 pound automobile at steady speed on the highway. The next criterion is to provide enough power for adequate acceleration and hill climbing; an electric motor 20 of about sixty-five horsepower is appropriate, so that a total of one hundred ten horsepower is available. It will be recognized of course that these figures are subject to considerable variation. However, it is considered an aspect of the invention that the maximum power of the electric motor is at least about equal and possibly up to double

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the maximum power of the internal combustion engine; this ratio reflects approximately the ratio of the power required for cruising and for acceleration or hill climbing.

As also indicated above, according to the invention electric motor 20 is an asynchronous AC induction motor driven by pulses provided by MOS controlled thyristors switched by microprocessor 48, or by a dedicated motor controller responsive to microprocessor 48. In a further aspect of the invention, motor 20 operates on relatively high voltage and relatively low current AC of at least about 120 Hz and up to 1000 Hz phase voltage frequency. All else being equal, such a high frequency motor can be made more compact than the typical lower frequency 60 Hz AC motor. However, higher frequencies involve increased power losses. Preferably, a multipole motor (one having at least ten poles) is employed, so that adequate power is provided at a maximum RPM selected to ensure satisfactory motor durability. As an example, an 18-pole motor 20 operating at 150-600 Hz will have a maximum speed of 4,000 rpm; this would be conveniently close to the operating speed of engine 40, so that reduction gearing need not be provided.

The advantage of operating at relatively low maximum currents of between 30 and 75 amperes and preferably no more than 50 amperes is that by thus lowering the current as compared to the high currents of prior hybrid and electric vehicles, electrical connection and circuit manufacturing technologies can be employed that will simplify the manufacture of the vehicle and render its operation most efficient. The maximum voltage is then chosen in accordance with the vehicle weight. More specifically, conductors carrying up to about 50 amperes can be connected through simple plug-in connectors as commonly used in electrical power wiring; higher currents, as taught by the prior art relating to hybrid vehicles, require bolted connections. Moreover, for a given power transmission requirement, higher voltages and lower currents result in reduced resistance heating losses as compared to lower voltages and higher currents. Further, through use of lower currents, it is possible to manufacture the circuitry connecting the solid-state switching elements of switching unit 44 and related components to the control signal conductors and power feeders using printed circuit technology. It is feasible to print wide conductors thick enough to carry 20 amperes of current as required to supply a three-phase motor with 50 total amperes of AC power, and to likewise carry rectified current produced by the motor when operated in regenerative braking mode to recharge battery 22. Preferably, switching module 44 carries the switching elements 110 on a ring-shaped printed circuit board disposed around shaft 26 of motor 20, the elements 110 being cooled by heat sinks in the flow path of a fan mounted on shaft 26 to ensure adequate cooling. If it is desired to manufacture a smaller, lighter vehicle according to the invention, the same circuit components could be used and the voltage simply reduced by reducing the number of individual batteries making up battery pack 22, providing substantial manufacturing economy.

It will be appreciated that according to the invention the internal combustion engine is run only in the near vicinity of its most efficient operational point, that is, such that it produces 60-90% of its maximum torque whenever operated. This in itself will yield improvement in fuel economy on the order of 200-300%. More

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specifically, a 200–300% reduction in fuel consumption will provide an equal reduction in carbon dioxide emissions, as the amount of carbon dioxide emitted is proportional to the amount of fuel used. If ethanol is used as a fuel, that is, if the fuel is derived from renewable plant life rather than fossil fuel, an overall reduction in global carbon dioxide emissions will be achieved since the plants consume carbon dioxide during growth.

Toxic pollutants such as nitrogen oxides, carbon monoxide and hydrocarbons will be reduced by 200–300% simply through use of less fuel. As indicated above, a further reduction can be obtained by operating the engine in a lean burn mode. Although reduction of the combustion temperature in order to reduce the amount of nitrogen oxides emitted also reduces the thermodynamic efficiency, this technique can still be usefully employed; the improvement in fuel efficiency realized according to the invention is so high that a slight reduction in thermodynamic efficiency resulting in the reduction of the amount of nitrogen oxides emitted can be tolerated without substantial loss in overall economy.

The following parameters are relevant to the performance of a parallel hybrid vehicle: 1) the total maximum power available to drive the vehicle; 2) the ratio of the maximum output power of the internal combustion engine versus that of the electric motor; 3) the energy capacity of the battery; 4) the function of the power converter used to convert mechanical energy to electrical energy for storage and vice versa; 5) the availability of power to recharge the battery at any time; 6) the optimization of the control algorithm; and 7) appropriate mechanical linkage between the engine, the motor, and the drive wheels. According to the invention, these parameters are optimized so as to ensure that the engine is operated at all times at its maximum point of efficiency, and such that the driver need not consider the power source being employed at any given time.

The cost of the engine according to the invention is 30–50% that of a conventional engine. The cost of the clutch and torque transfer unit is no more than 33% of the cost of a conventional automatic transmission. No alternator or starter is required. The cost of the motor, the solid state switching unit, and the increased battery capacity is roughly equivalent to the cost of the components eliminated according to the invention. Weight and manufacturing complexity are likewise comparable.

Thus, in accordance with the objects of the invention a hybrid electric vehicle is provided that is fully competitive with conventional internal combustion engine driven vehicles in terms of acceleration, cost, weight, and manufacturing and operational convenience, while obtaining very substantial improvements in fuel efficiency and even more substantial reduction in emission of pollutants.

It should be understood that while in the foregoing the best mode of practice of the invention now known to the inventor has been fully disclosed, numerous inventions and developments will be made during further development of the hybrid electric vehicle of the invention. Therefore, inasmuch as the present invention is subject to many variations, modifications, and changes in detail, it is intended that all subject matter discussed above or shown in the accompanying drawings be interpreted as illustrative only and not be taken in a limiting sense.

What is claimed is:

1. A hybrid electric vehicle, comprising:

two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources via first and second input shafts and transmit said torque to said output shaft; an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an electric motor adapted to receive electricity from a battery and supply torque to said torque transfer unit, said motor also being adapted to be operated as a generator, whereupon said motor receives torque and generates electric energy;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator; and

a controller for controlling the operation of said engine, said electric motor, and said torque transfer unit, such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor via said first and second input shafts and transmits torque therefrom to said drive wheels by way of said output shaft, and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels;

wherein the relative ratios of the rates of rotation of said engine and said electric motor to said input shafts, and the relative ratio of the rate of rotation of an output member of said torque transfer unit to the rate of rotation of said driven wheels, are fixed.

2. The vehicle of claim 1, wherein said controller means controls flow of combustible fuel to said engine and of electrical energy to said motor, whereby said vehicle may be operated in a variety of operating modes selected dependent on desired vehicle performance.

3. The vehicle of claim 2, wherein said modes include at least:

a low speed/reversing mode, wherein all energy is supplied by said battery and all torque by said electric motor;

a high speed/cruising mode, wherein all energy is supplied by combustible fuel and all torque by said engine; and

an acceleration/hill climbing mode, wherein energy is supplied by both combustible fuel and said battery, and torque by both said engine and said motor.

4. The vehicle of claim 1, wherein said engine is an internal combustion engine.

5. The vehicle of claim 4, wherein said combustible fuel is selected from the group consisting of ethanol, natural gas, propane, gasoline, and diesel fuel.

6. The vehicle of claim 1, wherein said motor is an AC inductor motor.

7. A hybrid electric vehicle comprising:

two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources and transfer said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

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an electric motor adapted to receive electricity from a battery and supply torque to said torque transfer unit, said motor also being adapted to be operable as a generator;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator; and

a controller for controlling the operation of such engine, said electric motor, and said torque transfer unit such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor and transmits and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels, and

wherein said battery provides a maximum current of no more than about 75 amperes at a voltage selected responsive to the characteristics of said motor.

8. The vehicle of claim 7, wherein said battery provides a maximum voltage in the approximate range of 500–1,500 volts.

9. The vehicle of claim 7, wherein said electric motor is an AC motor, said vehicle further comprises solid state switching means, and said battery provides DC to said switching means, said switching means comprising means for converting said DC supplied by said battery to AC for supply to said electric motor, and further comprising means for rectifying AC generated by said motor when operated in a regenerative mode to provide DC to charge said battery.

10. The vehicle of claim 9, wherein said AC supplied by said switching means has a frequency of between about 120 and about 1000 Hz.

11. A hybrid electric vehicle, comprising:

two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources and transfer said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an AC electric motor adapted to receive electric energy from a battery and supply torque to said torque transfer unit, said motor being further adapted to be operable as a generator;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator;

solid state switching means for converting DC supplied by said battery to AC for supply to said electric motor, and for rectifying AC generated by said motor when operated in a regenerative mode to provide DC to charge said battery; and

a controller for controlling the operation of said engine, said electric motor, said solid state switching means, and said torque transfer unit, such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor and transmits torque therefrom to said drive wheels by way of said output shaft, and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels.

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12. The vehicle of claim 11, wherein said solid state switching means comprises a plurality of metal oxide semiconductor controlled thyristors switched responsive to control signals provided by said controller.

13. A hybrid electric vehicle, comprising:

two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources and transfer said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an electric motor adapted to receive electricity from a battery and supply torque to said torque transfer unit, said motor being further adapted to be operated as a generator;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator; and

a controller for controlling the operation of said engine, said electric motor, and said torque transfer unit such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor and transmits torque therefrom to said drive wheels by way of said output shaft, and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels;

wherein said electric motor produces maximum power at a level at least equal to 100% of the maximum power of said internal combustion engine.

14. The vehicle of claim 13, wherein said electric motor produces maximum power at a level equal to between about 130% and about 200% of the maximum power of said internal combustion engine.

15. A method of operating a hybrid electric vehicle, said vehicle comprising:

a controllable torque transfer unit, operable to transfer torque in three modes (a) from either or both of two input shafts to an output member, said output member transmitting torque to drive wheels of said vehicle; (b) between said input shafts; and (c) from said output member to one or both of said input shafts;

an electric motor adapted to apply torque to a first of said input shafts responsive to supplied electrical energy, said motor being further operable in a generator mode, to provide electrical energy when driven by torque transferred thereto via said first input shaft;

a combustible-fuel-burning internal combustion engine adapted to apply torque to a second of said input shafts;

a battery adapted to supply electrical energy to and store energy received from said electric motor; and

a controller adapted to receive input commands from a driver of said vehicle to monitor operation of said vehicle and to control operation of said controllable torque transfer unit, said motor, and said internal combustion engine, said method comprising the following steps:

selecting an appropriate mode of operation of said vehicle from the following possible modes of operation:

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low speed running;
steady state running;
acceleration or hill climbing;
battery charging;
braking; and
engine starting;
selecting the appropriate flow paths of electrical energy and/or combustible fuel and of torque to effectuate the selected mode of operation; and
controlling operation of said controllable torque transfer unit, said electric motor and said internal combustion engine in accordance with said selected appropriate flow paths.

16. The method of claim 15, wherein during said low speed running mode of operation, said flow paths are controlled such that electrical energy flows from said battery to said electric motor, and torque flows from said electric motor to said torque transfer unit and thence to said drive wheels.

17. The method of claim 15, wherein during said steady state running mode of operation, said flow paths are controlled such that fuel flows from a supply thereof to said engine and torque supplied by said engine is transferred to said torque transfer unit and thence to said drive wheels.

18. The method of claim 15, wherein during said acceleration or hill climbing mode of operation, said flow paths are controlled such that electrical energy flows from said battery to said electric motor, fuel flows from a supply thereof to said engine and torque flows from said electric motor and said engine to said torque transfer unit and thence to said wheels.

19. The method of claim 15, wherein during said battery charging mode of operation, said flow paths are controlled such that fuel flows from a supply thereof to said engine and torque supplied by said engine is transferred to said motor, whereby electrical energy is transferred from said motor to said battery for storage therein.

20. The method of claim 19, wherein torque is further transferred from said engine to said wheels for propelling said vehicle during said battery charging mode of operation.

21. The method of claim 15, wherein during said braking mode of operation, said flow paths are controlled such that torque is transferred from said wheels to said motor, and electrical energy is transferred from said motor to said battery for storage therein.

22. The method of claim 15, wherein during said engine starting mode of operation, said flow paths are controlled such that electrical energy flows from said battery to said electric motor, and torque flows from said electric motor to said torque transfer unit and thence to said engine for starting said engine.

23. The method of claim 22, wherein during said engine starting mode of operation, said flow paths are controlled such that torque may additionally be transferred from said wheels to said torque transfer unit and thence to said engine for starting said engine.

24. The method of claim 15, wherein said battery supplies DC electrical energy, said electric motor operates on AC energy, said vehicle comprises a solid state switching network for conversion of DC to AC for powering said motor, and said controller controls operation of said switching network such that said DC is converted to AC of appropriate characteristics to effectuate the mode of operation thus determined.

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25. The method of claim 24, wherein said battery supplies DC of no more than about 75 amperes to said solid-state switching network, said network comprising a plurality of semiconductor switching elements, said controller controlling switching of said elements to generate AC of appropriate characteristics.

26. The method of claim 24 wherein the frequency of said AC is controlled to be between about 120 and 1000 Hz and preferably between about 150 and about 600 Hz.

27. The method of claim 26, wherein said motor is operable in constant power and constant torque modes, and wherein the frequency of said AC is below about 150 Hz in constant torque operation and between about 150 and about 600 Hz in constant power operation.

28. The method of claim 15, wherein the ratios at which torque is transferred between said input shafts and said torque transfer unit and between said torque transfer unit and said wheels are fixed.

29. The method of claim 15, wherein said controllable torque transfer unit is operable in a locked mode, wherein torque supplied from one or both of said input shafts to said torque transfer unit is transmitted directly to said output member, and in a differential mode, wherein the ratio of the speed of said output member is fixed with respect to the difference in speed of said two input shafts, and comprising the step of selecting the operational mode of said torque transfer unit responsive to the selected mode of operation.

30. The method of claim 29, comprising the further step of operating said torque transfer unit in a limited-slip differential mode, wherein the speed of said output member is related to the difference in speeds of the two input shafts by a ratio differing from the corresponding effective ratio in said differential mode.

31. The method of claim 30, comprising the further step of varying the ratio of the speed of said output member to the difference in speeds of said input shafts in said limited-slip differential mode.

32. A hybrid electric vehicle, comprising:

a controllable torque transfer unit, operable to transfer torque in three modes: (a) from either or both of two input shafts to an output member, said output member transmitting torque to drive wheels of said vehicle; (b) between said input shafts; and (c) from said output member to one or both of said input shafts;

an electric motor adapted to apply torque to a first of said input shafts responsive to supplied electrical energy, said motor further being operable in a generator mode, to provide electrical energy when driven by torque transferred thereto via said first input shaft;

a combustible-fuel-burning internal combustion engine adapted to apply torque to a second of said input shafts;

a battery adapted to supply electrical energy to and store energy received from said electric motor; and
a controller adapted to receive input commands from a driver of said vehicle to monitor operation of said vehicle and to control operation of said controllable torque transfer unit, said motor, and said internal combustion engine, wherein said controller comprises means for performing the following functions responsive to input commands and monitored operation of said vehicle:

selecting an appropriate mode of operation of said vehicle from at least the following possible modes of operation:

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low speed running;
steady state running;
acceleration or hill climbing;
battery charging;
braking; and
engine starting;

selecting the appropriate flow paths of electrical energy and/or combustible fuel and of torque to effectuate the selected mode of operation; and
controlling operation of said controllable torque transfer unit, said electric motor and said internal combustion engine in accordance with said selected appropriate flow paths and selected mode of operation.

33. The vehicle of claim 32, wherein said controllable torque transfer unit comprises first and second input gears connected to said first and second input shafts and an output gear controllably connected to said output member, means actuatable by said controller for controlling connection of said output gear to said output member, whereby said controller controls transfer of torque through said torque transfer unit.

34. The vehicle of claim 33, wherein said torque transfer unit is operable in a first locked mode, in which all torque supplied by one or both of said input shafts is transferred to said output members directly, and a differential mode, in which the speed of said output member is equal to the difference in speed of said input shafts, and wherein said controller controls the mode of operation of said torque transfer unit responsive to the selected mode of operation.

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35. The vehicle of claim 34, wherein in both said locked and differential modes of operation of said torque transfer unit, the respective rates of rotation of said gears of said torque transfer unit and of the corresponding input shafts, and the respective rates of rotation of said output member and said wheels are fixed.

36. The vehicle of claim 34, wherein said torque transfer unit is further operable in a limited-slip differential mode, wherein the speed of the output member is proportional to the difference in speed of the input shafts, said limited-slip differential mode being selectable by said controller.

37. The vehicle of claim 36, wherein said controller is further enabled to select said proportion from a range thereof.

38. The vehicle of claim 32, wherein said battery supplies DC electrical energy, said electric motor operates on AC energy, said vehicle further comprising a solid state switching network for conversion of DC to AC for powering said motor, and wherein said controller controls operation of said switching network such that said DC is converted to AC of appropriate characteristics to effectuate the mode of operation thus determined.

39. The vehicle of claim 38, wherein said battery supplies DC of less than about 75 amperes to said solid-state switching network, said network comprising a plurality of semiconductor switching elements, said controller controlling said elements to generate AC of appropriate characteristics.

40. The vehicle of claim 38, wherein said motor is a multipole induction motor.

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EXHIBIT 2

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

FILED-CLERK
U.S. DISTRICT COURT

JUN -8 AM 9:48

TX EASTERN-MARSHALL

BY 

PAICE LLC,

Plaintiff,

v.

TOYOTA MOTOR CORPORATION, a
Japanese Corporation, TOYOTA MOTOR
NORTH AMERICA, INC., and TOYOTA
MOTOR SALES, U.S.A., INC.,

Defendants.

2-04CV-211 DF

Case No.: _____

JURY TRIAL DEMANDED

COMPLAINT

Plaintiff Paice LLC, by and through the undersigned attorneys, hereby files this Complaint against Toyota Motor Corporation, Toyota Motor North America, Inc., and Toyota Motor Sales, U.S.A., Inc., requesting damages and injunctive relief based upon its personal knowledge as to its own facts and circumstances, and based upon information and belief as to the acts and circumstances of others.

PARTIES

1. Plaintiff Paice LLC ("Paice") is a Delaware limited liability company having its principal place of business at 6830 Elm Street, McLean, Virginia 22101.
2. Defendant Toyota Motor Corporation ("TMC") is, upon information and belief, a Japanese Corporation having its principal place of business at 1 Toyota-Cho, Toyota City, Aichi Prefecture 471-8571, Japan.

3. Defendant Toyota Motor North America, Inc. (“Toyota NA”) is, upon information and belief, a Delaware corporation having its principal place of business at 9 West 57th Street, Suite 4900, New York, NY 10019. Upon further information and belief, Toyota NA is a wholly-owned subsidiary of TMC and is the holding company for TMC’s United States sales and manufacturing companies.

4. Defendant Toyota Motor Sales, U.S.A., Inc. (“Toyota USA”) is, upon information and belief, a Delaware corporation having its principal place of business at 19001 S. Western Avenue, Torrance, CA 90509. Upon further information and belief, Toyota USA is TMC’s sales and marketing arm, overseeing TMC vehicle sales, service, and parts for the over 1,200 Toyota dealerships located within the United States.

JURISDICTION AND VENUE

5. This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code. This Court has subject matter jurisdiction over this action under 28 U. S. C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over TMC, Toyota NA, and Toyota USA (collectively, “Defendants”) because, among other things, Defendants have directly infringed, contributed to the infringement of, and/or actively induced infringement of Paice’s patents within this judicial district, as set forth herein.

7. Venue is proper in this Court under 28 U.S.C. §§ 1391 and 1400(b) because Defendants have committed acts of infringement in and are subject to personal jurisdiction in this judicial district.

FACTS

8. Paice is the owner by assignment of all right, title, and interest in and to United States Letters Patent No. 5,343,970 (“the ’970 patent”) entitled “HYBRID ELECTRIC VEHICLE.” The ’970 patent was duly and legally issued by the United States Patent and Trademark Office on September 6, 1994.

9. Paice is the owner by assignment of all right, title, and interest in and to United States Letters Patent No. 6,209,672 (“the ’672 patent”) entitled “HYBRID VEHICLE.” The ’672 patent was duly and legally issued by the United States Patent and Trademark Office on April 3, 2001.

10. Paice is the owner by assignment of all right, title, and interest in and to United States Letters Patent No. 6,554,088 (“the ’088 patent”) entitled “HYBRID VEHICLES.” The ’088 patent was duly and legally issued by the United States Patent and Trademark Office on April 29, 2003.

COUNT I: INFRINGEMENT OF UNITED STATES PATENT NO. 5,343,970

11. Paice incorporates paragraphs 1-10 as if fully set forth herein.

12. Defendants have been and are now making, using, selling, offering for sale within the United States, or importing into the United States, hybrid vehicles that infringe the ’970 patent.

13. Defendants have been and now are contributing to the infringement of and/or actively inducing the infringement of the ’970 patent by others by, among other things, distributing or offering for sale hybrid vehicles and manuals that teach third parties to operate said hybrid vehicles in a manner that directly infringes the ’970 patent.

14. Defendants have had actual knowledge of the '970 patent and their infringement is willful.

15. Defendants' past and continued acts of infringement have injured Paice and thus Paice is entitled to recover damages adequate to compensate for that infringement.

16. Defendants' acts of infringement have caused and will continue to cause irreparable injury to Paice unless and until enjoined by this Court.

COUNT II: INFRINGEMENT OF UNITED STATES PATENT NO. 6,209,672

17. Paice incorporates paragraphs 1-16 as if fully set forth herein.

18. Defendants have been and are now making, using, selling, offering for sale within the United States, or importing into the United States, hybrid vehicles that infringe the '672 patent.

19. Defendants have been and now are contributing to the infringement of and/or actively inducing the infringement of the '672 patent by others by, among other things, distributing or offering for sale hybrid vehicles and manuals that teach third parties to operate said hybrid vehicles in a manner that directly infringes the '672 patent..

20. Defendants have had actual knowledge of the '672 patent and their infringement is willful.

21. Defendants' past and continued acts of infringement have injured Paice and thus Paice is entitled to recover damages adequate to compensate for that infringement.

22. Defendants' acts of infringement have caused and will continue to cause irreparable injury to Paice unless and until enjoined by this Court.

COUNT III: INFRINGEMENT OF UNITED STATES PATENT NO. 6,554,088

23. Paice incorporates paragraphs 1-22 as if fully set forth herein.

24. Defendants have been and are now making, using, selling, offering for sale within the United States, or importing into the United States, hybrid vehicles that infringe the '088 patent.

25. Defendants have been and now are contributing to the infringement of and/or actively inducing the infringement of the '088 patent by others by, among other things, distributing or offering for sale hybrid vehicles and manuals that teach third parties to operate said hybrid vehicles in a manner that directly infringes the '088 patent.

26. Defendants have had actual knowledge of the '088 patent and their infringement is willful.

27. Defendants' past and continued acts of infringement have injured Paice and thus Paice is entitled to recover damages adequate to compensate for that infringement.

28. Defendants' acts of infringement have caused and will continue to cause irreparable injury to Paice unless and until enjoined by this Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Paice LLC prays that this Court enter judgment:

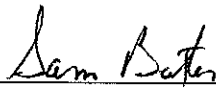
- a) declaring that Defendants have infringed United States Patent Nos. 5,343,970; 6,209,672; and 6,554,088;
- b) preliminarily and permanently enjoining Defendants and their officers, agents, employees, representatives, successors and assigns, and any others acting in concert with them, from infringing United States Patent Nos. 5,343,970; 6,209,672; and 6,554,088;
- c) awarding plaintiff Paice damages resulting from Defendants' infringement adequate to compensate for that infringement;

- d) awarding plaintiff Paice treble damages as a result of Defendants' willful infringement;
- e) declaring this to be an exceptional case within the meaning of 35 U.S.C. § 285;
- f) awarding plaintiff Paice its costs in this action, together with reasonable attorney's fees and pre-judgment and post-judgment interest; and
- g) granting plaintiff Paice such other relief as this court deems just and proper.

Paice respectfully demands a trial by jury.

Respectfully submitted,

Dated: June 8, 2004

By: 
Samuel F. Baxter (Bar No. 01938000)
McKOOL SMITH P.C.
505 East Travis Street, Suite 105
Marshall, Texas 75670
(903) 927-2111
(903) 927-2622

Of counsel:

Ruffin B. Cordell (Bar No. 04820550)
FISH & RICHARDSON P.C.
1425 K Street, N.W., 11th Floor
Washington, DC 20005
(202) 783-5070 (phone)
(202) 783-2331 (facsimile)

Robert E. Hillman
FISH & RICHARDSON P.C.
225 Franklin Street
Boston, MA 02110
(617) 542-5070 (phone)
(617) 542-8906 (facsimile)

Andrew D. Hirsch, Esquire
PAICE LLC
6830 Elm Street
McLean, VA 22101
(703) 288-9471 (phone)
(703) 288-9474 (facsimile)

Attorneys for Plaintiff
PAICE LLC

EXHIBIT 3

UNITED STATES DISTRICT COURT

for the

Eastern District of Texas

PAICE, LLC

Plaintiff

v.

TOYOTA MOTOR CORPORATION, ET AL

Defendant

Civil Action No. 2:04-cv-211

CLERK'S CERTIFICATION OF A JUDGMENT TO BE REGISTERED IN ANOTHER DISTRICT

I certify that the attached judgment is a copy of a judgment entered by this court on (date) 08/16/2006.

I also certify that, as appears from this court's records, no motion listed in Fed. R. App. P. 4(a)(4)(A) is pending before this court, the time for appeal has expired, and no appeal has been filed or, if one was filed, it is no longer pending.

Date: 08/09/2016



CLERK OF COURT

David A. D'Souza

Signature of Clerk or Deputy Clerk

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

PAICE LLC,

Plaintiff,

v.

TOYOTA MOTOR CORP., et al.,

Defendants.

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2:04-CV-211-DF

FINAL JUDGMENT

Pursuant to Rule 58 of the Federal Rules of Civil Procedure and in accordance with the jury verdict delivered on December 20, 2005 and with the Court’s contemporaneously filed Orders regarding Plaintiff’s Motion for Judgment as a Matter of Law or, in the Alternative, for a New Trial (Dkt. No. 209), Plaintiff’s Motion for Entry of an Injunction (Dkt. No. 207), and Defendants’ Motion for Judgment as a Matter of Law or in the Alternative, for a New Trial (Dkt. No. 208), the Court thereby enters judgment for Plaintiff Paice LLP and against Toyota Motor Corp., *a Japanese Corporation*, Toyota Motor North America Inc., and Toyota Motor Sales USA, Inc. (collectively “Defendants”) for infringement of U.S. Patent No. 5,343,970 (“the ‘970 patent”), claims 11 and 39. **IT IS THEREFORE ORDERED THAT** Plaintiff shall have and recover from Defendants, jointly and severally, the total sum of \$4,269,950.00, together with pre-judgment interest calculated at the prime rate, compounded annually, together with post-judgment interest on the entire sum calculated pursuant to 28 U.S.C. § 1961. The parties shall meet and confer in an attempt to reach agreement as to the calculation of pre-judgment interest at the prime rate and, within 14 days of the entry of this order, shall jointly submit such calculation



A TRUE COPY I CERTIFY
DAVID A. OTOOLE, CLERK
U.S. DISTRICT COURT
EASTERN DISTRICT OF
TEXAS
By: Charlene Hinton

to the Court. This Court retains jurisdiction to award Plaintiff amounts for pre-judgment interest.

For the reasons stated in this Court's contemporaneously filed order, Plaintiff's motion for injunctive relief was denied. Defendants are hereby **ORDERED**, for the remaining life of the '970 patent, to pay Plaintiff an ongoing royalty of \$25.00 per infringing Prius II, Toyota Highlander, or Lexus RX400H (the "infringing vehicles"). Royalties shall be paid quarterly and shall be accompanied by an accounting of the sales of infringing vehicles. Payments shall begin three months after the date of signing of this judgment and shall be made quarterly thereafter. The first payment shall include royalties for all infringing vehicles sold that were not accounted for in the jury's verdict. Payments not made within 14 days of the due date shall accrue interest at the rate of 10%, compounded monthly. Plaintiff shall have the right to request audits. It is anticipated that the parties may wish to agree to more comprehensive or convenient terms. The parties shall promptly notify the Court of any such agreement. The Court maintains jurisdiction to enforce this portion of the Final Judgment.

All relief not specifically granted herein is denied. All pending motions not previously ruled on are denied. This is a Final Judgment and is appealable.

SIGNED this 16th day of August, 2006.



DAVID FOLSOM
UNITED STATES DISTRICT JUDGE

EXHIBIT 4

United States Court of Appeals for the Federal Circuit

2006-1610, -1631

PAICE LLC,

Plaintiff-Cross Appellant,

v.

TOYOTA MOTOR CORPORATION,
TOYOTA MOTOR NORTH AMERICA, INC.,
and TOYOTA MOTOR SALES, U.S.A., INC.,

Defendants-Appellants.

Ruffin B. Cordell, Fish & Richardson P.C., of Washington, DC, argued for plaintiff-cross appellant. With him on the brief were Ahmed J. Davis and Scott A. Elengold. Of counsel on the brief was Robert E. Hillman, of Boston, Massachusetts.

George E. Badenoch, Kenyon & Kenyon, of New York, New York, argued for defendants-appellants. With him on the brief were John Flock and Thomas R. Makin. Of counsel on the brief was T. Cy Walker, of Washington, DC.

Appealed from: United States District Court for the Eastern District of Texas

Judge David J. Folsom

United States Court of Appeals for the Federal Circuit

2006-1610, -1631

PAICE LLC,

Plaintiff-Cross Appellant,

v.

TOYOTA MOTOR CORPORATION,
TOYOTA MOTOR NORTH AMERICA, INC.,
and TOYOTA MOTOR SALES, U.S.A., INC.,

Defendants-Appellants.

DECIDED: October 18, 2007

Before LOURIE, RADER, and PROST, Circuit Judges.

Opinion for the court filed by Circuit Judge PROST. Opinion concurring in the result filed by Circuit Judge RADER.

PROST, Circuit Judge.

Defendants Toyota Motor Corporation, Toyota Motor North America, Inc., and Toyota Motor Sales, U.S.A., Inc. (collectively, “Toyota”) appeal a judgment by the United States District Court for the Eastern District of Texas that Toyota infringed claims 11 and 39 of U.S. Patent No. 5,343,970 (“the ’970 patent”) owned by Paice LLC (“Paice”) under the doctrine of equivalents. Paice LLC v. Toyota Motors Corp., No. 2:04-CV-211 (E.D. Tex. Aug. 16, 2006). Paice cross-appeals the district court’s

judgment that Toyota did not literally infringe claims 11 and 39 of the '970 patent, claim 15 of the U.S. Patent No. 6,209,672 ("the '672 patent"), and claims 1 and 2 of U.S. Patent No. 6,554,088 ("the '088 patent").¹ Paice also appeals the district court's imposition of an ongoing royalty arrangement that allows Toyota to continue practicing the invention of the '970 patent in exchange for a set royalty payment. For the reasons explained below, we affirm-in-part, vacate-in-part, and remand for further proceedings.

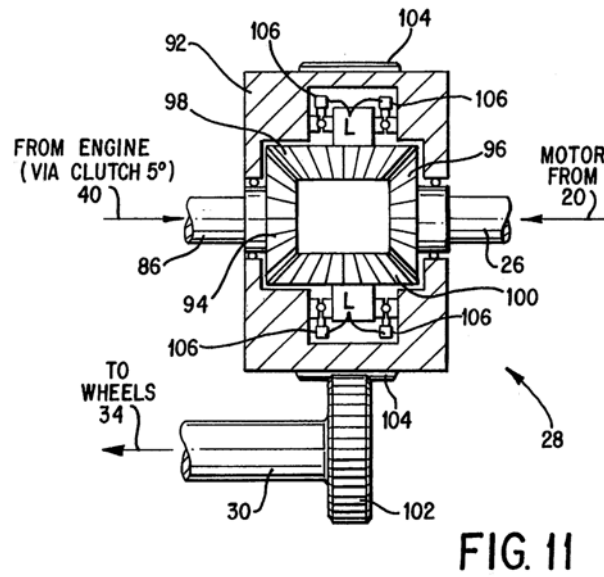
I. BACKGROUND

A. Patents in Suit

The three patents at issue in this case relate to drive trains for hybrid electric vehicles. In a conventional automobile, the wheels are driven using torque (rotational force) supplied only by an internal combustion engine ("ICE" or "engine"). In hybrid electric vehicles, on the other hand, the wheels are driven using torque supplied by an ICE, an electric motor, or a combination of the two. This adds an additional layer of complexity because the relative torque contributions of the ICE and the electric motor must be combined and controlled.

To that end, the drive train disclosed in the '970 patent employs a microprocessor and a controllable torque transfer unit ("CTTU") that accepts torque input from both the ICE and the electric motor:

¹ The '088 patent is a continuation in part of the '672 patent. In the proceedings below, the parties treated the disclosures of the '672 patent and the '088 patents as being the same. Appellants' Br. 15. Thus, for the sake of simplicity, we will refer primarily to the relevant portions of the '672 patent and omit any parallel citations to the '088 patent.



As shown in figure 11 of the '970 patent, illustrated above, the ICE output shaft 86 and the electric motor output shaft 26 extend into the CTTU housing 92 and terminate at bevel gears 94 and 96, respectively, each of which mesh with two other bevel gears, 98 and 100.

In this embodiment, bevel gears 98 and 100 are equipped with microprocessor-controlled locking devices 106 for setting the gears' rotational freedom, if any, relative to the housing. '970 patent, col. 15, ll. 50-53. In one mode of operation the microprocessor locks the bevel gears, causing the housing and the drive shaft 30 to rotate about their horizontal axes in response to any torque provided by the output shafts of the ICE or electric motor (or both). Id. at col. 15, l. 64—col. 16, l. 3. In this “locked” mode of operation, the two shafts rotate at the same speed, although the amount of torque provided by the individual shafts may differ. See id. The CTTU's microprocessor, by virtue of its ability to control the amount of torque provided at each shaft, is able to control the relative amounts of torque transferred from the ICE and the

electric motor to the drive shaft. See id. at col. 10, ll. 4-43. The microprocessor is able to do so by holding the inputs constant and merely sending control signals to the locking devices. For example, if the ICE is disengaged (and not providing any torque) while the bevel gears are locked, there is a one-to-one transfer of torque from the electric motor output shaft, through the CTTU, to the drive shaft. J.A. 1494. In another mode of operation (“differential mode”), however, the microprocessor releases the bevel gears such that they are free to rotate. ’970 patent, col. 16, ll. 11-27. If the ICE is disengaged in this mode, there is a one-to-two transfer of torque from the motor output shaft, through the CTTU, to the drive shaft. J.A. 1494.

Claims 11 and 39 of the ’970 patent are relevant to this appeal. Because claim 39 depends from claim 32, and because the issues we must decide do not implicate the additional limitation of claim 39, only claims 11 and 32 are reproduced below:

11. A hybrid electric vehicle, comprising:

two or more drive wheels receiving torque for propelling said vehicle from an output shaft, and a power unit supplying drive torque to said output shaft, said power unit comprising:

a controllable torque transfer unit adapted to receive torque from two sources and transfer said torque to said output shaft;

an engine adapted to consume combustible fuel and supply torque to said torque transfer unit;

an AC electric motor adapted to receive electric energy from a battery and supply torque to said torque transfer unit, said motor being further adapted to be operable as a generator;

a battery for supply of stored electric energy to said motor, and for receiving and storing electric energy from said motor when operated as a generator;

solid state switching means for converting DC supplied by said battery to AC for supply to said electric motor, and for rectifying AC generated by

said motor when operated in a regenerative mode to provide DC to charge said battery; and

a controller for controlling the operation of said engine, said electric motor, said solid state switching means, and said torque transfer unit, such that said torque transfer unit receives torque from either or both of said internal combustion engine and said electric motor and transmits torque therefrom to said drive wheels by way of said output shaft, and for controlling the relative contributions of the internal combustion engine and electric motor to the torque driving the wheels.

'970 patent, col. 23, ll. 36-68 (emphasis added).

32. A hybrid electric vehicle, comprising:

a controllable torque transfer unit, operable to transfer torque in three modes: (a) from either or both of two input shafts to an output member, said output member transmitting torque to drive wheels of said vehicle; (b) between said input shafts; and (c) from said output member to one or both of said input shafts;

an electric motor adapted to apply torque to a first of said input shafts responsive to supplied electrical energy, said motor further being operable in a generator mode, to provide electrical energy when driven by torque transferred thereto via said first input shaft;

a combustible-fuel-burning internal combustion engine adapted to apply torque to a second of said input shafts;

a battery adapted to supply electrical energy to and store energy received from said electric motor; and

a controller adapted to receive input commands from a driver of said vehicle to monitor operation of said vehicle and to control operation of said controllable torque transfer unit, said motor, and said internal combustion engine, wherein said controller comprises means for performing the following functions responsive to input commands and monitored operation of said vehicle:

selecting an appropriate mode of operation of said vehicle from at least the following possible modes of operation:

- low speed running;
- steady state running;
- acceleration or hill climbing;
- battery charging;

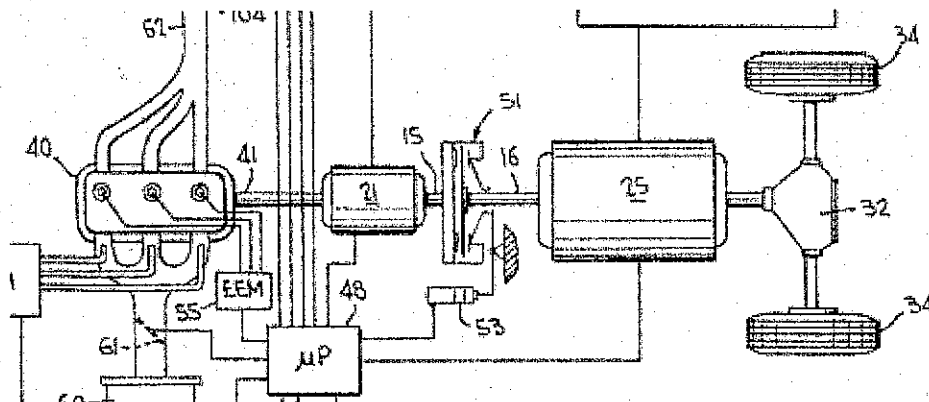
braking; and
engine starting;

selecting the appropriate flow paths of electrical energy and/or combustible fuel and of torque to effectuate the selected mode of operation; and

controlling operation of said controllable torque transfer unit, said electric motor and said internal combustion engine in accordance with said selected appropriate flow paths and selected mode of operation.

Id. at col. 26, l. 39–col. 27, l. 15 (emphasis added).

The drive train of the '672 and '088 patents differs from the drive train of the '970 patent in that it employs a clutch—rather than a CTTU—to combine the torque contributions from the ICE and the electric motor. As illustrated in figure 3 of the '672 patent (illustrated below), torque from electric motor 25 is directly transferred to differential 32 (and therefore to the wheels 34). Torque from ICE 40, on the other hand, is only indirectly transferred to the wheels because output shaft 41 of the ICE is routed through clutch 51.



Consequently, when the clutch is disengaged, the electric motor is the sole source of torque transferred to the wheels. When the clutch is engaged, however, torque provided by both the ICE and the electric motor is transferred to the wheels. Another

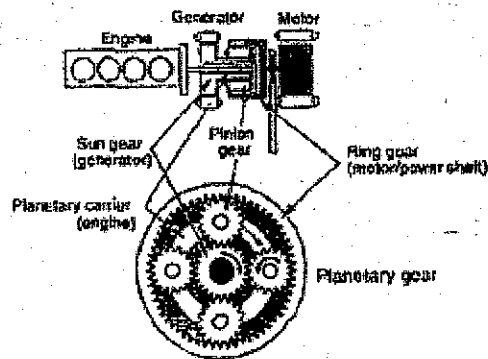
difference from the drive train of the '970 patent is that the drive train of the '672 and '088 patents use "road load" to determine the proper combination of torque from the ICE and the electric motor.²

B. Accused Devices

At issue in this appeal are hybrid electric vehicles sold by Toyota. Toyota's first commercial hybrid electric vehicle, the "Prius I," was sold in Japan beginning in 1997 and in the United States beginning in 2000. In 2003, Toyota began marketing a newer-model, the "Prius II." The drive train (or "transaxle unit") of the Prius II—which is also present in another form in the Toyota Highlander and Lexus RX 400h³—is similar to the drive trains described in all three patents in suit in the sense that it, too, combines torque from an ICE with torque from an electric motor ("MG2" or "the traction motor"). However, instead of combining these torques using the '970 patent's lockable bevel gears or the '672 and '088 patents' clutch, Toyota's drive train is designed around a "planetary gear unit" (or "power-splitting device"), having a central "sun" gear that meshes with several "planetary" gears (supported by a "planetary carrier"), which in turn mesh with a peripheral ring gear:

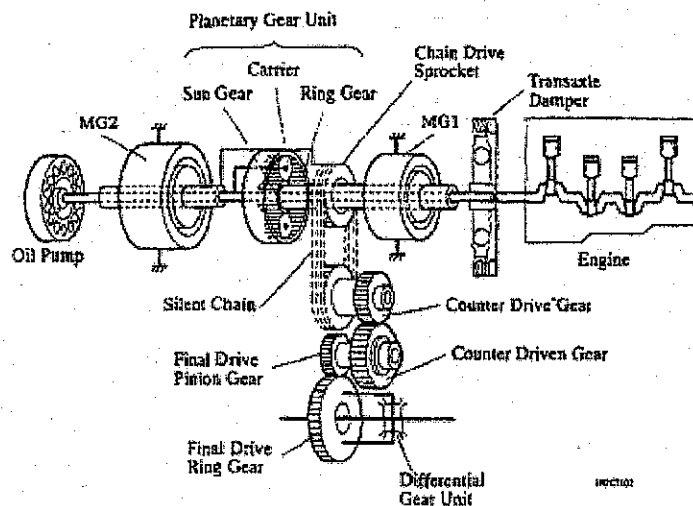
² Road load, expressed as a percentage of the ICE's maximum torque output, is simply the amount of torque required to propel the vehicle at any give time.

³ The drive trains of the Toyota Highlander and the Lexus RX 400h do differ somewhat from the drive train of the Prius II. However, those differences are not relevant to the issues on appeal.



J.A. 4629.

As may be appreciated from the following depiction of Toyota's drive train, the output shaft from the ICE is connected to the planetary carrier (and thus to the planetary gears), whereas the output shaft from MG2 is connected to the ring gear. The Toyota design also employs an additional motor/generator ("MG1") having an output shaft connected to the sun gear.



J.A. 12788.

As with the microprocessor in the '970 drive train, a microprocessor associated with Toyota's drive train is able to control the amount of torque provided by both the ICE and MG2. J.A. 1577. Unlike the transfer of torque through the CTTU described in the

'970 patent, however, the transfer of torque through Toyota's planetary gear unit cannot be varied; 72% of the torque provided by the ICE to the planetary carrier is always transferred to the ring gear.⁴ J.A. 1497. That fraction of the ICE torque is then combined with 100% of the torque provided by MG2. J.A. 1505. As such, Toyota's microprocessor is only able to vary the amount of torque output to the drive shaft by varying the ICE and/or MG2 torque inputs; holding those inputs constant results in a constant torque output. J.A. 1577.

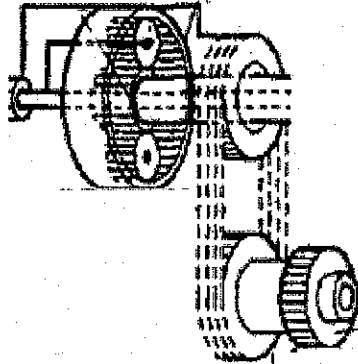
II. DISTRICT COURT PROCEEDINGS

Paice initiated the instant action against Toyota on June 8, 2004, by filing a complaint in the United States District Court for the Eastern District of Texas alleging three counts of infringement—one count for each patent in suit—and requesting, inter alia, compensatory damages and a permanent injunction. On September 28, 2005, the district court issued a written opinion construing dozens of disputed claim terms. Paice LLC v. Toyota Motor Corp., No. 2:04-CV-211 (E.D. Tex. Sept. 28, 2005) (“Claim Construction Opinion”). Of primary importance to the issues on appeal is the court's construction of “controllable torque transfer unit” (the CTTU limitation) as “a multi-input device or component that is controlled to transfer variable amounts of torque.” Id. slip op. at 17.

On December 6, 2005, the district court commenced a ten-day jury trial during which both sides presented extensive evidence. Paice's theory of the case, put before the jury largely through the expert testimony of Dr. Steven Nichols, was that the

⁴ The remaining 28% is always transferred to the sun gear.

planetary gear unit, the chain/sprocket arrangement, and the shaft leading to the counter drive gear of Toyota's drive train satisfies the CTTU limitation.



See J.A. 1256,⁵ 12788. In particular, Dr. Nichols stated that the structure is (1) "a multi-input device or component"—it accepts inputs at the planetary carrier from the ICE output shaft and at the ring gear from the MG2 output shaft; (2) "that is controlled to transfer variable amounts of torque"—the microprocessor dictates the amount of torque sent from each input, and ultimately output to the drive shaft. See, e.g., J.A. 1201-03.

Toyota offered its own theory to the jury, largely through the expert testimony of Dr. Edward Caulfield. According to Dr. Caulfield, Toyota's planetary gear unit only accepts torque input from the ICE. Seventy-two percent of that input torque is then output to the ring gear. The combination of the fractional (72%) ICE torque with the torque from MG2 does not occur until after the fractional ICE torque is output from the planetary gear unit to the ring gear. Therefore, Dr. Caulfield's opinion was that Toyota's

⁵ Q. [By Mr. Badenoch on cross] So, what you call the controllable torque transfer unit are these components, that planetary, and in effect it's the drive sprocket on that shaft going down to the other gear on the end of the drive sprocket, that's the controllable torque transfer unit in Toyota?

A. [By Dr. Nichols] Yes.

J.A. 1256.

drive train does not satisfy the district court's construction because there is no single "device or component" that can be characterized as "multi-input." See J.A. 1497-98.⁶ Dr. Caulfield further testified that Toyota's drive train does not satisfy the CTTU limitation because the flow of torque through the planetary gear unit cannot be altered from the 72/28 split discussed above, and therefore, cannot be "controlled to transfer variable amounts of torque." J.A. 1505-06.

At the end of the evidentiary presentation, the case was submitted to the jury. The jury concluded that Toyota's drive train lacks a literal CTTU, but infringes claims 11 and 39 of the '970 patent under the doctrine of equivalents, see J.A. 4394; the jury found no infringement of the other asserted claims. Based on those findings, the jury awarded \$4,269,950.00 to Paice as a reasonable royalty.

⁶ Q. [By Mr. Badenoch on direct] When you say . . . summing at the ring and not across the physical device, what do you mean by that?

A. [By Dr. Caulfield] I would look at the ring as not a device, it's a part. A ring can be compared to a shaft. There's no difference between this shaft here, if we made it a foot long either way of exactly where it hits that particular planetary output. The results would be the same.

So, Mr. Cordell [through the testimony of Dr. Nichols], . . . is making his sum point where the two roads come together on literally the ring, which is a shaft. So, he's summing into a physical part.

Now, no two ways about it. The planetary is a device. That green model [of the planetary gear unit] I have there is a device. In engineering you would call it a machine. It does basically split the torque. A torque coming into the carrier is sent out through the sun and then out through the ring. There's splitting going on there. But that's a device where he's trying to sum is on a physical part, just a solid member.

. . . .

It's very similar if I were to take two motors, tie them with two chains to the same shaft. That's—the shaft is doing the summing, not the device.

J.A. 1497-98 (emphases added).

On January 20, 2006, Toyota filed a motion for judgment as a matter of law (“JMOL”) seeking to overturn the jury’s limited finding of infringement. Paice filed its own motion for JMOL, seeking to overturn the jury’s finding of no literal infringement with respect to claims 11 and 39 of the ’970 patent, claim 15 of the ’672 patent, and claims 1 and 2 of the ’088 patent. The court denied both motions.

Paice also moved for a permanent injunction to prevent Toyota from making, using, offering for sale, and selling within the United States the accused vehicles. In addressing that motion, the district court followed the traditional four-factor test mandated by the Supreme Court’s recent decision in eBay Inc. v. MercExchange, L.L.C., 126 S. Ct. 1837, 1839 (2006) (“A plaintiff must demonstrate: (1) that it has suffered an irreparable injury; (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury; (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and (4) that the public interest would not be disserved by a permanent injunction.”). With respect to irreparable injury, Paice argued that the absence of an injunction would have an adverse effect on its ability to license the patented technology. The court rejected this argument, however, noting that Paice had only adduced vague testimony that the company was “sidelined” in its business dealings during litigation. Paice LLC v. Toyota Motors Corp., No. 2:04-CV-211, Docket No. 227, slip op. at 8 (E.D. Tex. Aug. 16, 2006). The court also pointed to evidence in the record suggesting that Paice’s inability to reach an agreement with Chrysler, for example, was due to public misrepresentations Paice allegedly made about its relationship with Chrysler, and was not due to the absence of an injunction. Id. Moreover, since Paice does not actually

manufacture any goods, the court concluded that there was no threat that Paice would lose name recognition or market share without an injunction. Id. slip op. at 9.

Intertwined with its consideration of irreparable injury was the court's analysis of the adequacy of monetary damages. Given the relatively small reasonable royalty awarded by the jury—which amounted to approximately \$25 per accused vehicle—in comparison to the overall value of the vehicles, the court concluded that monetary damages would suffice. Id. The adequacy of monetary damages was further bolstered, in the court's opinion, by the fact that Paice had offered a license to Toyota during the post-trial period. Id. slip op. at 9-10.

With regard to the balance of hardships, Paice contended that it “faces extinction” without an injunction, whereas Toyota would suffer “only minor economic losses.” This contention was rejected by the court because, in its view, an injunction against Toyota (1) would disrupt “related business, such as dealers and suppliers;” (2) could have an adverse effect on the “burgeoning hybrid market;” and (3) might damage Toyota's reputation. Id. slip op. at 10. The court further concluded that Paice's “extinction” argument was unsound because it was based on the rejected premise that “only injunctive relief [of the type requested] will lead to a successful licensing program.” Consequently, the court held that the balance of hardships favored Toyota. Id. Lastly, the court determined that the public interest favored neither party. Id. Accordingly, the court denied Paice's motion for a permanent injunction. Id. slip op. at 11. However, rather than leaving the parties to their own devices with respect to any future acts of infringement, the court imposed an “ongoing royalty” of \$25 per Prius II, Toyota Highlander, or Lexus RX400h vehicle sold by Toyota during the remaining life of the

patent and entered final judgment. Paice LLC v. Toyota Motors Corp., No. 2:04-CV-211, Docket No. 228, slip op. at 2 (E.D. Tex. Aug. 16, 2006).

Toyota appeals the denial of its JMOL motion, and Paice cross-appeals both the denial of its JMOL motion, as well as the “ongoing royalty” imposed by the district court.⁷ We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

III. STANDARD OF REVIEW

Federal Rule of Civil Procedure 50(a)(1) provides that a court may grant a motion for JMOL only where “there is no legally sufficient evidentiary basis for a reasonable jury to find for [the non-movant].” “We review the district court’s denial of a motion for JMOL without deference, applying the same standard employed by the district court.” Honeywell, Int’l Inc. v. Hamilton Sundstrand Corp., 370 F.3d 1131, 1139 (Fed. Cir. 2004) (en banc). “Under this standard, we can reverse a denial of a motion for JMOL only if the jury’s factual findings are not supported by substantial evidence or if the legal conclusions implied from the jury’s verdict cannot in law be supported by those findings.” Cybor Corp. v. FAS Techs., 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc).

“The decision to grant or deny permanent injunctive relief is an act of equitable discretion by the district court, reviewable on appeal for abuse of discretion.” eBay, 126 S. Ct. at 1839.

⁷ The district court’s refusal to enjoin Toyota altogether is not raised in Paice’s cross appeal. Appellee’s Br. 62 n.3.

IV. DISCUSSION

A. Toyota's Appeal

We first address the issues raised in Toyota's appeal of the district court's denial of the motion for JMOL of noninfringement of claims 11 and 39 of the '970 patent. According to Toyota, the jury's finding of infringement of those claims under the doctrine of equivalents must be overturned for three reasons. We disagree.

1. Sufficiency of the Evidence

First, Toyota argues that the expert testimony of Dr. Nichols was legally insufficient to support a finding of infringement under the doctrine of equivalents. Although Dr. Nichols testified before the jury for a day and a half, Toyota claims that the vast majority of his testimony was directed to literal infringement. Specifically, Toyota argues that Dr. Nichols explicitly marked the end of his extensive literal infringement testimony by answering in the affirmative when asked whether "[t]he opinion that [he had] expressed thus far . . . relate[d] to literal infringement." J.A. 1218. Immediately thereafter, Toyota contends, Dr. Nichols explicitly transitioned to his equivalence testimony by again answering in the affirmative when asked whether he had "also formed an opinion with respect to the Doctrine of Equivalents." Id.

Following his answer to that question, the following brief exchange took place before the jury between counsel for Paice and Dr. Nichols:

Q. So, assuming that the controllable torque transfer unit is not literally infringed, have you found that . . . the accused vehicles satisfy this limitation under the doctrine of equivalents?

A. Yes. It is my opinion that they do.

Q. [C]ould you describe that for us by reference to the slide that we see on the screen, Slide 71?

A. Well, this particular slide is the Doctrine of Equivalents analysis for the controllable torque transfer unit. I will say that I do believe that it is literally there. However, it provides the function that is to be provided. It provides controllable and variable amounts of torque from two sources to the drive wheels, and I believe that's consistent with the claim construction of the Court.

The way in which it does that is it controls a set of gears to receive torque from two input shafts and transfer torque to the drive wheels.

Q. And what's the result?

A. The results are control—that the vehicles control to direct torque flow between the motor, the engine and the drive

Id. The "Slide 71" referenced by counsel for Paice contained a grid with three rows, with one row corresponding the function of the CTTU, one row corresponding to the way in which the CTTU performed that function, and one row corresponding to the result the CTTU achieved; and two columns, one corresponding to the '970 patent and the other corresponding to the "Accused Toyota Vehicles." In each of the grid's six boxes, a red check mark indicated the presence of the function/way/result in both the CTTU and the "Accused Toyota Vehicles." This, Toyota says, was the extent of Dr. Nichols's testimony on the subject.

We have stated that "a patentee must . . . provide particularized testimony and linking argument . . . with respect to the function, way, result test when such evidence is presented to support a finding of infringement under the doctrine of equivalents." Tex. Inst. v. Cypress Semiconductor Corp., 90 F.3d 1558, 1567 (Fed. Cir. 1996) (emphasis added). "Generalized testimony as to the overall similarity between the claims and the accused infringer's product or process will not suffice." Id. Under this standard, Dr. Nichols's testimony was plainly sufficient. A careful review of the entire transcript from that portion of the trial evinces that the bulk of Dr. Nichols's testimony was not limited to

literal infringement. While it is true that the excerpts pointed to by Toyota ostensibly draw a figurative line in the sand separating testimony concerning literal infringement from that concerning equivalence, we do not read Dr. Nichols's testimony to say that every word he uttered from the time he took the stand until the moment he transitioned to the doctrine of equivalents related only to literal infringement. Rather, Dr. Nichols gave a substantial amount of testimony—occupying over seventy pages of transcript—concerning the technology disclosed in the patents and the inner workings of the accused vehicles' transaxle units before he even discussed the topic of infringement at all:

Q. Now, Dr. Nichols, now that we've discussed some of the components in the patents, could we turn to your infringement analysis.⁸

A. Yes.

J.A. 1212. It was with his answer to this question that Dr. Nichols indicated to the jury that his infringement testimony was officially beginning. And it was to this starting point that Dr. Nichols was referring a short time later when he answered in the affirmative to the question, "[t]he opinion that you've expressed thus far, does that relate to literal infringement?" J.A. 1218.

Another infirmity in Toyota's argument is that, even if we were to agree that Dr. Nichols did in fact draw some sort of line in the sand with his answer to that question, in so doing he did not thereby render his literal infringement analysis irrelevant to his subsequent equivalence analysis. Our "particularized testimony" standard does not

⁸ Although counsel for Paice arguably characterized the testimony to that point as relating only to "some of the components in the patents," Dr. Nichols had by that time extensively discussed the accused transaxle units.

require Dr. Nichols to re-start his testimony at square one when transitioning to a doctrine of equivalents analysis. Indeed, we think it desirable for a witness to incorporate earlier testimony in order to avoid duplication. The fact that Dr. Nichols did not explicitly do so does not mean he did not implicitly incorporate his earlier testimony. Thus, we reject any notion that Dr. Nichols's equivalence testimony is strictly limited to the few lines pointed to by Toyota.

Toyota also argues that Dr. Nichols's other testimony cannot be used to support the jury's verdict due to the absence of any "linking argument" to tie such testimony to the function/way/result analysis of the CTTU. Again, we find Toyota's characterization of Dr. Nichols's testimony inaccurate. For example, on the morning of December 8, 2005, and before he turned to his literal infringement analysis, Dr. Nichols demonstrated the operation of an actual accused vehicle's transaxle unit to the jury, and in so doing he explained:

Q. Okay. And when you say its input, what is it that you're talking about as being input, Dr. Nichols?

A. We have torque input from the engine, torque input from MG2, combined torque output to the drive wheels, controllably combined to give you variable torque on the output to drive the wheels.

J.A. 1201 (emphases added). Later that same morning, referring to Slide 71, Dr. Nichols explained to the jury that the accused vehicles' transaxle units "provide[] the function that is to be provided," i.e., "controllable and variable amounts of torque from two sources to the drive wheels." J.A. 1218 (emphases added). Thus, within a close proximity of time, Dr. Nichols first demonstrated and explained operation of an actual accused device to the jury, and then linked that demonstration and explanation to the

function of the CTTU. Our review of the record reveals that Dr. Nichols's testimony was similarly sufficient with respect to linking the way and result prongs.

Nonetheless, Toyota criticizes Dr. Nichols for allegedly failing to identify any specific structure in the accused vehicles' transaxle units corresponding to the CTTU. In particular, Toyota claims that Paice's equivalence argument is supported by nothing more than Dr. Nichols's "[g]eneralized testimony as to the overall similarity between the claims and the accused infringer's product." See Appellants' Br. 37-38 (quoting Tex. Inst., 90 F.3d at 1567). This argument is specious in light of the fact that counsel for Toyota spent a substantial portion of his time on cross examination asking Dr. Nichols to help draw a box on a diagram around the exact portion of Toyota's drive train he identified as corresponding to the CTTU. See J.A. 1256. To now suggest on appeal that the jury was never shown specific structure is simply incorrect. Compare Appellants' Br. 38 ("Indeed, Dr. Nichols was never asked at trial to identify any alleged equivalent structure in connection with his equivalents analysis."), with J.A. 1256 (Questions by Mr. Badenoch: "Exactly what portion—what device in this diagram of the Toyota Prius transaxle schematic, what are you [Dr. Nichols] calling now the controllable torque transfer unit in your opinion?" and "Can you [Dr. Nichols] just go over that one more time so that I can draw a box to make sure I've got it right?").

Toyota also argues that Dr. Nichols "fail[ed] to acknowledge any differences between the CTTU claim limitation and any component or components alleged to be equivalent" in order to "explain why and how such differences are insubstantial." Appellants' Br. 41. We are unaware of any such "acknowledgement" requirement in the context of the function/way/result test, and Toyota does not cite any case law standing

therefor. In any case, Dr. Nichols was called as a rebuttal witness to answer Dr. Caulfield's testimony. With respect to the question of whether Toyota's accused CTTU is "multi-input device or component," Dr. Nichols testified:

Q. Now, Dr. Nichols, did you also hear Dr. Caulfield testify yesterday about where the torque from MG2, I'll say intersects the ring gear and where is it, in your understanding, that Dr. Caulfield said that takes place?

. . . .

A. If I understand him correctly, he takes the position that—well, actually this plus this plus other elements are all one shaft and as a result it is not an input; it's sort of an input/output flowby and there is no input shaft in MG2. If I understand his testimony.

Q. Do you agree with this testimony, Dr. Nichols?

A. Well, it's certainly a novel approach.

Q. And what is it you mean by a novel approach?

A. It's not true.

Q. So, you do not agree with it?

A. No. . . . This is a ring gear. Without this, the planetary gear unit does not exist. It's not a ring gear shaft, a shaft ring gear. It's a ring gear.

Q. Thank you.

A. I will add one other thing. If, in fact, it does flow on the outside somehow, which it does not, this is not a dumb device. This would be a very smart device that somehow would have torque flow around the outside of a ring gear which is not a ring gear but a shaft. It simply does not make sense to me.

Trial Tr. 141:18–143:4, December 16, 2005.

And with respect to the question of whether Toyota's accused CTTU is "controlled to transfer variable amounts of torque," Dr. Nichols testified:

Q. We heard a lot of testimony about the 72 percent/28 percent torque split within the planetary gear unit. I just want to confirm it. Do you agree or disagree that the torque split always occurs in the planetary gear unit?

A. Yes. It's steady state, that's the torque split and it's been consistent on four or five or six people giving testimony. We all agree on that split of steady state.

....

Q. And yet you still have reached the conclusion that you've reached, Dr. Nichols, regarding whether the planetary gear unit in the Toyota accused vehicles is a controllable torque transfer unit?

A. Yes.

Q. And how have you reached that in light of the fact that there is a fixed split within the ring gear itself?

A. Well, . . . I believe everyone that's given testimony has agreed that it—the [MG2] can provide power independently through the . . . planetary gear unit, although there may be some arguments whether it's through or somehow around the planetary gear unit. Everyone's agreed, and the engine can provide it and then provide it in different combinations.

Trial Tr. 145:13–146:18, Dec. 16, 2005.

This rebuttal testimony, in conjunction with the testimony given during each side's case in chief, provided the jury with an ample basis upon which to evaluate the insubstantiality of the differences between the CTTU limitation and the accused structure.

2. Criticism of Prior Art

The second reason Toyota contends that the jury's equivalence verdict cannot stand relates to Paice's criticism of two patents issued to Berman et al. and assigned to TRW, Inc.: U.S. Patent Nos. 3,566,717 ("the '717 patent") and 3,732,751 ("the '751

patent”) (collectively, “Berman/TRW”).⁹ Both Berman/TRW patents describe a hybrid drive train similar to those in the accused vehicles in that the Berman/TRW drive train design employs an ICE, a traction motor, and a generator coupled to a planetary gear unit. See '751 patent, col. 2, l. 48–col. 3, l. 9. However, unlike Toyota’s drive train, the Berman/TRW drive train has two operator-selectable modes of operation, one being designed for lower speeds and the other being designed for higher speeds. See, e.g., id. at col. 4, ll. 48-62. Although the Berman/TRW design employs various controllers containing transistors and other electronic circuitry, see id. at figs. 4-5, there is no controlling microprocessor choosing the most appropriate mode of operation. J.A. 1255.

The written description of the '970 patent describes the Berman/TRW design as providing “[a] more promising ‘parallel hybrid’ approach” than other prior art, '970 patent, col. 2, l. 67–col. 3, l. 1, but it nevertheless points to disadvantages of the Berman/TRW design compared to the '970 invention:

The present invention relates to such a parallel hybrid vehicle, but addresses certain substantial deficiencies of the Berman et al design. For example, Berman et al show two separate electric motor/generators powered by the internal combustion engine to charge batteries and to drive the vehicle forward in traffic. This arrangement is a source of additional complexity, cost and difficulty, as two separate modes of engine control are required, and the operator must control the transition between the several modes of operation. Further the gear train shown by Berman

⁹ The '751 patent is a continuation in part of the '717 patent. Aside from the addition of a few alternate embodiments in the '751 patent, see col. 17, ll. 10-52 (discussing embodiments not relevant here), the written descriptions of these two patents appear more-or-less identical. For simplicity, when we refer to the shared written description, we cite only to the '751 patent.

et al appears to be quite complex and difficult to manufacture economically.¹⁰

Id. at col. 3, ll. 16-27 (emphases added). Given this criticism and disavowal of Berman/TRW in the written description, Toyota argues that its drive trains—which are allegedly “based on the configuration of the prior art Berman/TRW patents”—cannot be captured by Paice’s invocation of the doctrine of equivalents.

This court has addressed the effects of criticism and disavowal in several cases. For example, in SciMed Life Systems, Inc. v. Advanced Cardiovascular Systems, Inc., the technology at issue related to “[b]alloon dilatation catheters . . . used in coronary angioplasty procedures to remove restrictions in coronary arteries.” 242 F.3d 1337, 1339 (Fed. Cir. 2001). Such catheters were made in one of two configurations: “the dual (or adjacent) lumen configuration,” or “the coaxial lumen configuration.” Id. The question on appeal was whether the claims—which merely specified that the two lumens be “separate”—were limited in scope, either literally or under the doctrine of equivalents, to the coaxial lumen configuration. Analyzing the claim language in light of the written description, we held, inter alia, that the patentee had “distinguish[ed] the prior art on the basis of the use of dual lumens and [had] point[ed] out the advantages of the coaxial lumens used in the catheters that [were] the subjects of the [patents in suit].” Id. at 1343. We read this as “support[ing]” the “conclusion that the claims should not be read so broadly as to encompass the distinguished prior art structure.” Id. We further explained that the “most compelling portion of the specification” was the

¹⁰ The ’970 patent also distinguishes Berman/TRW on the basis that “one or even two variable-speed transmissions may be required.” ’970 patent, col. 3, ll. 28-30. Toyota does not point to that distinction as relevant to this appeal. See Appellants’ Br. 51.

patentee's statement that the coaxial configuration "is 'the basic sleeve structure for all embodiments of the present invention contemplated and disclosed herein.'" Id. at 1344 (quoting the written description). We were thus led "to the inescapable conclusion" that the "separate" limitation was literally limited in scope to the coaxial configuration. Id. at 1342.

Relying again on the patentee's criticism of the prior art and the "all embodiments" statement, we arrived at the same conclusion with respect to equivalent claim scope. However, our analysis turned on a narrower rationale:

The principle articulated in [several cited] cases is akin to the familiar rule that the doctrine of equivalents cannot be employed in a manner that wholly vitiates a claim limitation. See Warner-Jenkinson Co. v. Hilton Davis Chem. Co., [520 U.S. 17, 29-30 (1997)]; Athletic Alternatives, [Inc. v. Prince Mfg., Inc.], 73 F.3d 1573, 1582 (Fed. Cir. 1996)] ("specific exclusion" principle is "a corollary to the 'all limitations' rule"). Thus, if a patent states that the claimed device must be "non-metallic," the patentee cannot assert the patent against a metallic device on the ground that a metallic device is equivalent to a non-metallic device. The unavailability of the doctrine of equivalents could be explained either as the product of an impermissible vitiation of the "non-metallic" claim limitation, or as the product of a clear and binding statement to the public that metallic structures are excluded from the protection of the patent. [T]he foreclosure of reliance on the doctrine of equivalents in such a case depends on whether the patent clearly excludes the asserted equivalent structure, either implicitly or explicitly.

Id. at 1346-47. Thus, because the patentee had "clearly exclude[d]" one of only two possible structures, "competitors and the public were free to draw the reasonable conclusion that the patentee was not seeking patent protection for catheters that used a dual lumen configuration." Id. at 1347.

This court was confronted with a similar fact pattern in Gaus v. Conair Corp., where the technology at issue related to "a safety mechanism that prevents fatal shocks to users of electrical appliances such as hairdryers" due to immersion of the appliance

in water. 363 F.3d 1284, 1285 (Fed. Cir. 2004). In particular, the safety mechanism of the patented invention employed protective circuitry designed to detect the invasion of water before any such water could reach the voltage-carrying components of the appliance itself. Id. at 1289. The safety mechanism of the accused appliance, however, would not react until water reached the voltage-carrying components of the appliance. Id. at 1290. This would result in the user experiencing a brief, but non-fatal shock. Id. Ironically, we noted, “one of the principal advantages of the claimed invention [over the prior art]” touted in the patent’s specification was the invention’s ability to “protect[] the user from such a shock.” Id. at 1289. Thus, we held that the patentee’s criticism of this prior art characteristic amounted to a surrender of claim scope that the patentee could not “reclaim . . . by invoking the doctrine of equivalents.” Id. at 1291; see also Dawn Equip. Co. v. Ky. Farms Inc., 140 F.3d 1009, 1016 (Fed. Cir. 1998) (holding that statements in the written description touting the ability of the patented invention to overcome disadvantages in the prior art “strongly suggest, if not mandate, judgment in [the defendant’s favor]” where the accused products suffered the very same disadvantages).

In this case, Toyota analogizes the ’970 patent’s criticism of the Berman/TRW design to the criticism of prior art discussed in SciMed, Gaus, and Dawn Equipment. We disagree. As the written description of the ’970 patent reveals, the primary disadvantage of the Berman/TRW design is its control system, which relies upon a human operator to select the mode of operation. ’970 patent, col. 3, ll. 24-25 (“[T]he operator must control the transition between the several modes of operation.”). Paice overcame this disadvantage by using a microprocessor to determine the most

appropriate mode of operation based on its monitoring of control inputs from the driver, as well as several other variables. Id. at col. 6, ll. 19-26. Toyota's drive trains use a microprocessor in the same manner as the '970 patent, i.e., the microprocessor determines the most appropriate mode of operation based on its monitoring of control inputs from the driver, as well as several other variables. J.A. 1225. Therefore, the '970 patent's discussion of the Berman/TRW design's disadvantages does not preclude the application of the doctrine of equivalents to Toyota's accused transaxle units.

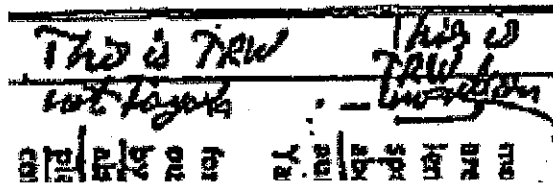
To be sure, the written description of the '970 patent does point out that the Berman/TRW "gear train . . . appears to be quite complex and difficult to manufacture economically." Col. 3, ll. 26-27. However, to the extent Paice drew a distinction between its design and the Berman/TRW design, the distinction is clearly secondary and equivocal at best. Moreover, it is far from obvious which portion of the gear train is supposed to be "quite complex and difficult to manufacture economically." Paice may have been referring to the arrangement of the motors, engine, and planetary gear set, or to the control system described in the Berman/TRW patents. The intrinsic evidence simply does not provide any resolution to this ambiguity. Consequently, this is not a case like SciMed where the patentee selected one configuration for "all embodiments" of the invention to the exclusion of the only other known configuration. Nor is this a case like Gaus or Dawn Equipment where the patentee touted the invention's improvements over the very same subject matter sought to be recaptured under the doctrine of equivalents. Thus, we find nothing in the written description of the '970 patent that amounts to a disavowal sufficient to overturn the jury's finding of infringement.

In spite of the above-mentioned differences between the Berman/TRW design and Toyota's design, Toyota argues that Paice is bound by various statements it made equating the Berman/TRW design to Toyota's design. According to Toyota, Paice's disavowal of the Berman/TRW design relative to the limitations of the '970 claims acts as a disavowal of Toyota's accused transaxle units. In the written description of the '672 patent, Paice distinguished Toyota's Prius I transaxle unit (which also uses a planetary gear unit to combine torque):

Various articles describe several generations of Toyota Motor Company hybrid vehicles, stated soon to be available commercially. . . . Toyota describes this vehicle as a "series-parallel hybrid"; regardless of the label applied, its powertrain appears to be similar to that of the Berman patents described above, that is, torque from either or both of an internal combustion engine and an electric motor are controllably combined in a "power-split mechanism" and transmitted to the drive wheels through a planetary gearset providing the functionality of a variable-ratio transmission.

'672 patent, col. 8, ll. 45-65 (emphases added). This statement, however, merely acknowledges what we have already observed, i.e., that both designs utilize a planetary gear unit to output combined torque. That observation does not imply that the Berman/TRW and Prius I designs are identical relative to the limitations of the '970 claims. Indeed, the written description of the '672 patent touts the advantages of its clutch-based design over both the CTTU-based design of the '970 patent and the planetary gear unit design of the Prius I. Id. at col. 9, ll. 38-51; col. 12, ll. 17-21. This is entirely consistent with the jury's finding that Toyota's planetary gear unit design infringes the CTTU-based design of the '970 patent but not the clutched-based design of the '672 patent.

To further buttress its argument that Paice equated the Berman/TRW design with the accused drive trains and disclaimed them, Toyota cites a host of extrinsic evidence, including a Paice "business plan" explaining the cost disadvantages of the Berman/TRW design, J.A. 12235; a confidential document written by Paice founder Dr. Alex Severinsky describing "[t]he Toyota Hybrid Drive" as an "EXACT copy" of the Berman/TRW design, J.A. 12089; an article quoting a co-inventor of the '088 patent as describing "the Toyota TMS" system to be a "one-on-one copy" of the Berman/TRW design, J.A. 15754; a page from Paice's "marketing materials" asserting that the "Toyota Prius" "is the realization of the 1971 TRW patent," J.A. 15348; an email from Dr. Severinsky to Toyota stating that Paice's "technology is quite opposite to your Prius," J.A. 12097; and the following notations hand written by Dr. Severinsky in the margin of an article describing the Prius I:



J.A. 12085 (notations read "This is TRW not Toyota" and "This is TRW invention").¹¹

Although the parties disagree as to whether extrinsic evidence may give rise to a disavowal of subject matter, we need not address this point. Simply put, we reject Toyota's contention that Paice's statements equating the Berman/TRW design to Toyota's design amount to a complete disavowal of the accused transaxle units.

¹¹ Dr. Severinsky testified at trial that these notations represent his shorthand way of saying that the Berman/TRW design is "very similar" to the Prius I design. J.A. 1161.

3. Admissions by Counsel

The third and final reason Toyota urges us to overturn the jury's finding of infringement relates to a portion of the opening statement made to the jury by counsel for Paice:

And keep in mind that Toyota can cut off damages tomorrow. Toyota can make sure they never have to pay Paice another cent by doing what? By going back to the Prius I and don't use Dr. Severinsky's high voltage/low current invention anymore and stop using road load.

J.A. 1130 (emphasis added). According to Toyota, this is a binding judicial admission by Paice that the Prius I does not infringe any of the patents in suit. In Toyota's opinion, "the undisputed evidence established that the structural configurations of the accused vehicles are the same as the Prius I for purposes of determining infringement." Appellants' Br. 58. Therefore, Toyota argues, this admission necessarily implies that none of the accused vehicles infringe.

The district court agreed with Toyota to a certain extent, and held that the above statement constitutes a "binding admission" that Prius I does not infringe the patents-in-suit. Paice LLC v. Toyota Motor Corp., No. 2:04-CV-211, Docket No. 225, slip op. at 13 (E.D. Tex. Aug. 16, 2006). The district court noted, however, that the jury did not consider whether the claim limitations were "met equally by the Prius I as the Prius II." Id. slip op. at 13-14. Therefore, the district court disagreed that the evidence established that the structural configurations of the accused vehicles are the same as the Prius I for purposes of determining infringement. Instead, the court concluded, "there is sufficient evidence underlying the jury's verdict and that verdict should not be overturned based on the conclusory admission by Plaintiff's counsel." Id. slip op. at 14.

In effect, the district court treated the statement as merely an evidential admission—as opposed to a conclusive admission—which the jury was free to weigh against the other evidence adduced at trial.¹² See Pickens v. Equitable Life Assurance Soc’y, 413 F.2d 1390, 1393-94 (5th Cir. 1969) (holding that a district court properly treated an admission as evidential and submitted it to the jury for consideration). In light of what we view as tenuous logic in Toyota’s argument, and the “conclusory” nature of the admission itself, we think the district court acted well within the confines of its discretion by ruling as it did.

Having rejected all three reasons set forth by Toyota for overturning the jury’s finding of infringement, we hold that the district court did not err in denying Toyota’s motion for JMOL.

B. Paice’s Cross Appeal

We next address the issues presented by Paice’s cross appeal, namely, (1) the district court’s denial of the motion for JMOL of no literal infringement of claims 11 and 39 of the ’970 patent, claim 15 of the ’672 patent, and claims 1 and 2 of the ’088 patent; and (2) the district court’s imposition of an ongoing royalty of \$25 per Prius II, Toyota Highlander, or Lexus RX400h vehicle subsequently sold by Toyota. As with Toyota’s appeal, we reject each of Paice’s contentions with respect to infringement issues. With respect to the ongoing royalty, however, we are unable to determine whether the district

¹² Indeed, when Paice objected at trial to the introduction of evidence regarding Prius I, the district court decided that it would “allow the testimony,” but that it would also “allow [Paice] great leeway in cross-examining on these issues . . . and . . . see what weight the jury gives [the evidence] under those circumstances.” Trial Tr. 14:17–22, Dec. 15, 2005.

court abused its discretion. Accordingly, we must vacate a limited portion of the district court's order and remand for further proceedings.

1. Denial of JMOL

Paice argues that the verdict of no literal infringement of claims 11 and 39 of the '970 patent, which was based on the jury's determination that the CTTU limitation is not satisfied by Toyota's drive train, is unsupported by the evidence. With respect to Toyota's argument that the accused drive trains lack a "multi-input device or component," Paice points out that nothing in the district court's claim construction "prevents a single shaft from being both an input and an output shaft," or "limit[s] the nature or the location of the input." Appellee's Br. 57-58. Paice's argument, however, misses the point of Dr. Caulfield's testimony. Because the combination of the fractional (72%) ICE torque with the MG2 torque does not occur until after the fractional ICE torque is output from the planetary gear unit to the ring gear, there is no single "device or component" in Toyota's design that can be characterized as "multi-input." Although the jury, in light of its equivalence verdict, must have seen Dr. Caulfield's distinction as insubstantial, we believe that his testimony provided the jury with substantial evidence upon which to base its finding of no literal infringement of claims 11 and 39 of the '970 patent.

Paice further argues that the jury's verdict of no literal infringement of claim 15 of the '672 patent and claims 1 and 2 of the '088 patent, each of which contains a clutch limitation, is unsupported by the evidence. The district court construed the term "clutch" as "a device that selectively permits or prohibits transfer of torque and rotation." Claim Construction Opinion, slip op. at 33. According to Dr. Nichols, the court's construction is

satisfied by a combination of the planetary gear unit, the ICE shaft, the shaft leading from the ring gear to the drive sprocket, and the drive sprocket itself. J.A. 1256-57. This combination can be controlled either by MG2, which is able to prevent torque transfer from the ICE shaft to the drive sprocket by providing a counter torque at the ring gear sufficient to negate torque provided by the ICE shaft, J.A. 1257, or by a parking pawl, which is simply a lock that prevents movement of the gears, J.A. 1552-53. However, because the court's construction literally requires "a device, not a number of devices" to act as the clutch, Dr. Caulfield explained that the planetary gear unit, as a single device, will always transfer any torque provided by the ICE to the ring gear output. J.A. 1522, 1553 ("For clarity, [torque] gets out of the device, which is the planetary, and goes to the parking pawl, which is a couple of gears downstream . . .").

Once again, we believe this testimony provided the jury with substantial evidence upon which to base its finding of no literal infringement of claim 15 of the '672 patent, and claims 1 and 2 of the '088 patent. Therefore, we hold that the district court did not err in denying Paice's motion for JMOL.

2. Imposition of an Ongoing Royalty

Finally, we address the district court's ongoing-royalty order, which allows Toyota

to continue using the invention of the '970 patent at a cost of \$25 per accused vehicle.¹³

The district court's order reads:

Defendants are hereby ORDERED, for the remaining life of the '970 patent, to pay Plaintiff an ongoing royalty of \$25.00 per infringing Prius II, Toyota Highlander, or Lexus RX400H (the "infringing vehicles"). Royalties shall be paid quarterly and shall be accompanied by an accounting of the sales of infringing vehicles. Payments shall begin three months after the date of signing this judgment and shall be made quarterly thereafter. The first payment shall include royalties for all infringing vehicles sold that were not accounted for in the jury's verdict. Payments not made within 14 days of the due date shall accrue interest at the rate of 10%, compounded monthly. Plaintiff shall have the right to request audits. It is anticipated that the parties may wish to agree to more comprehensive and convenient terms. The parties shall promptly notify the Court of any such agreement. The Court maintains jurisdiction to enforce this portion of the Final Judgment.

J.A. 110. Paice argues that the district court did not have the statutory authority to issue this order, and that, even if the court did have such authority, Paice was denied its right to a jury trial under the Seventh Amendment to determine the amount of the ongoing royalty rate.¹⁴

¹³ We use the term ongoing royalty to distinguish this equitable remedy from a compulsory license. The term "compulsory license" implies that anyone who meets certain criteria has congressional authority to use that which is licensed. See, e.g., 17 U.S.C. § 115 ("When phonorecords of a nondramatic musical work have been distributed . . . under the authority of the copyright owner, any other person . . . may, by complying with the provisions of this section, obtain a compulsory license to make and distribute phonorecords of the work." (emphasis added)). By contrast, the ongoing-royalty order at issue here is limited to one particular set of defendants; there is no implied authority in the court's order for any other auto manufacturer to follow in Toyota's footsteps and use the patented invention with the court's imprimatur.

¹⁴ Paice also argues that the ongoing royalty inhibits Paice's ability to grant an exclusive license under its patent. To the extent Paice's inability to grant an exclusive license is a valid consideration, the fact that § 283 is permissive indicates that concerns regarding exclusivity do not outweigh other equitable factors. The district court considered this factor and rejected it, concluding that "other potential licensees would [not] be less likely to take a license if this case ends with monetary damages instead of equitable relief." J.A. 100. This finding is supported by substantial evidence.

We begin with the language of 35 U.S.C. § 283, which provides in relevant part:

The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.

Perhaps the most apparent restriction imposed by § 283 is that injunctions granted thereunder must “prevent the violation of any right secured by patent.” We have previously held that this statutory language limits the scope of activities that may be enjoined. See, e.g., Joy Techs. v. Flakt, Inc., 6 F.3d 770, 777 (Fed. Cir. 1993) (holding that noninfringing acts may not be enjoined). The more difficult question raised by this case, however, is whether an order permitting use of a patented invention in exchange for a royalty is properly characterized as preventing the violation of the rights secured by the patent.

Under some circumstances, awarding an ongoing royalty for patent infringement in lieu of an injunction may be appropriate. In Shatterproof Glass Corp. v. Libbey–Owens Ford Co., 758 F.2d 613, 628 (Fed. Cir. 1985), this court upheld a 5% court-ordered royalty, based on sales, “for continuing operations.” Although the parties in that case contested the amount of the royalty, styled a “compulsory license” by the court, there was no dispute as to the district court’s authority to craft such a remedy. See id. In the context of an antitrust violation, “mandatory sales and reasonable-royalty licensing” of relevant patents are “well-established forms of relief when necessary to an effective remedy, particularly where patents have provided the leverage for or have contributed to the antitrust violation adjudicated.” United States v. Glaxo Group Ltd., 410 U.S. 52, 59 (1973).

But, awarding an ongoing royalty where “necessary” to effectuate a remedy, be it for antitrust violations or patent infringement, does not justify the provision of such relief as a matter of course whenever a permanent injunction is not imposed. In most cases, where the district court determines that a permanent injunction is not warranted, the district court may wish to allow the parties to negotiate a license amongst themselves regarding future use of a patented invention before imposing an ongoing royalty. Should the parties fail to come to an agreement, the district court could step in to assess a reasonable royalty in light of the ongoing infringement.

In this case, the district court, after applying the four-factor test for a permanent injunction and declining to issue one, imposed an ongoing royalty sua sponte upon the parties. But, the district court’s order provides no reasoning to support the selection of \$25 per infringing vehicle as the royalty rate. Thus, this court is unable to determine whether the district court abused its discretion in setting the ongoing royalty rate. Accordingly, we think it prudent to remand the case for the limited purpose of having the district court reevaluate the ongoing royalty rate. Upon remand, the court may take additional evidence if necessary to account for any additional economic factors arising out of the imposition of an ongoing royalty.¹⁵ The district court may determine that \$25 is, in fact, an appropriate royalty rate going forward. However, without any indication as to why that rate is appropriate, we are unable to determine whether the district court abused its discretion. Cf. Hensley v. Eckerhart, 461 U.S. 424, 437 (1983) (“It [is]

¹⁵ This process will also, presumably, allow the parties the opportunity to present evidence regarding an appropriate royalty rate to compensate Paice and the opportunity to negotiate their own rate prior to the imposition of one by the court, as the concurrence suggests.

important . . . for the district court to provide a concise but clear explanation of its reasons for the fee award.”). The district court should also take the opportunity on remand to consider the concerns Paice raises about the terms of Toyota’s permissive continuing use.

Finally, we address Paice’s argument that it was entitled to a jury trial to determine the amount of the ongoing royalty rate. “The Seventh Amendment provides that ‘in Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved’” Markman v. Westview Instruments, Inc., 517 U.S. 370, 376 (1996). “The constitutional question of whether a party is entitled to a jury trial is a question of law that this court reviews de novo.” Tegal Corp. v. Tokyo Electron Am., Inc., 257 F.3d 1331, 1339 (Fed. Cir. 2001).¹⁶ “[W]e ask, first, whether we are dealing with a cause of action that either was tried at law at the time of the founding or is at least analogous to one that was.” Markman, 517 U.S. at 376. “If the action in question belongs in the law category, we then ask whether the particular trial decision must fall to the jury in order to preserve the substance of the common-law right as it existed in 1791.” Id.

In contending that it was improperly deprived of a jury trial, Paice merely states that “[i]t is well settled that the determination of damages is a legal question which carries a Seventh Amendment right to a jury trial.” Appellee’s Br. 64. While Paice may

¹⁶ Preliminary to our Seventh Amendment inquiry, we must satisfy ourselves that the statute in question cannot be read in a manner that avoids the constitutional question. Tull v. United States, 481 U.S. 412, 417 n.3 (1987). The wording of 35 U.S.C. § 283, which empowers “courts . . . [to] grant injunctions in accordance with the principles of equity . . . on such terms as the court deems reasonable,” leaves no doubt that Congress did not intend to statutorily entitle patentees to a jury trial for the purposes of awarding relief thereunder. (Emphases added.)

be correct as a general matter, not all monetary relief is properly characterized as “damages.” See, e.g., Root v. Ry., 105 U.S. 189, 207 (1882) (“When, . . . relief was sought which equity alone could give . . . in order to avoid a multiplicity of suits and to do complete justice, the court assumed jurisdiction to award compensation for the past injury, not, however, by assessing damages, which was the peculiar office of the jury, but requiring an account of profits”); cf. Bowen v. Massachusetts, 487 U.S. 879, 910 (1988) (“[E]ven if the District Court’s orders are construed in part as orders for the payment of money by the Federal Government to the State, such payments are not ‘money damages’ That is, since the orders are for specific relief (they undo the Secretary’s refusal to reimburse the State) rather than for money damages (they do not provide relief that substitutes for that which ought to have been done) they are within the District Court’s jurisdiction”). As such, the fact that monetary relief is at issue in this case does not, standing alone, warrant a jury trial. Accordingly, Paice’s argument falls far short of demonstrating that there was any Seventh Amendment violation in the proceedings below.

V. CONCLUSION

For the reasons discussed, we vacate and remand the portion of the district court’s final order insofar as it relates to the imposition of an ongoing royalty at a rate of \$25 per infringing vehicle. In all other respects, we affirm.

AFFIRM-IN-PART, VACATE-IN-PART, AND REMAND

United States Court of Appeals for the Federal Circuit

2006-1610, -1631

PAICE LLC,

Plaintiff-Cross Appellant,

v.

TOYOTA MOTOR CORPORATION,
TOYOTA MOTOR NORTH AMERICA, INC.,
and TOYOTA MOTOR SALES, U.S.A., INC.,

Defendants-Appellants.

RADER, Circuit Judge, concurring.

I agree with the court's judgment in this matter, with respect to both Toyota's appeal and Paice's cross-appeal. But, I write separately to express my opinion that in remanding to the district court for reevaluation of the "ongoing royalty" rate, this court should do more than suggest that "the district court may wish to allow the parties to negotiate a license amongst themselves . . . before imposing an ongoing royalty." Slip op. at 34 (emphasis added). Instead, this court should require the district court to remand this issue to the parties, or to obtain the permission of both parties before setting the ongoing royalty rate itself.

District courts have considerable discretion in crafting equitable remedies, and in a limited number of cases, as here, imposition of an ongoing royalty may be appropriate. Nonetheless, calling a compulsory license an "ongoing royalty" does not make it any less a compulsory license. To avoid many of the disruptive implications of a

royalty imposed as an alternative to the preferred remedy of exclusion, the trial court's discretion should not reach so far as to deny the parties a formal opportunity to set the terms of a royalty on their own. With such an opportunity in place, an ongoing royalty would be an ongoing royalty, not a compulsory license.

In this case, because the court imposed an ongoing royalty on the parties sua sponte after denying injunctive relief, the parties had no meaningful chance to present evidence to the district court on an appropriate royalty rate to compensate Paice for Toyota's future acts of infringement. Evidence and argument on royalty rates were, of course, presented during the course of the trial, for the purposes of assessing damages for Toyota's past infringement. But pre-suit and post-judgment acts of infringement are distinct, and may warrant different royalty rates given the change in the parties' legal relationship and other factors. When given choices between taking additional evidence or not, and between remanding to the parties or not, a district court may prefer the simplest course – impose its own compulsory license. This simplest course, however, affords the parties the least chance to inform the court of potential changes in the market or other circumstances that might affect the royalty rate reaching into the future.

In most cases, the patentee and the infringer should receive an opportunity at least to set license terms that will apply to post-suit use of the patented invention. This general principle has deep roots in both law and policy. Projecting the costs to be incurred for what would otherwise be future acts of infringement is necessarily a speculative exercise, even for the most stable markets and technologies. As licenses are driven largely by business objectives, the parties to a license are better situated than the courts to arrive at fair and efficient terms. After all, it is the parties, rather than

the court, that will be bound by the terms of the royalty. Particularly in the case of the patentee, who has proven infringement of its property right, an opportunity to negotiate its own ongoing royalty is a minimal protection for its rights extending for the remainder of the patent term.

For these reasons, I would require the district court to allow the parties an opportunity to set the ongoing royalty rate, or, at least to secure the permission of both parties before setting the rate itself. Of course, if the parties cannot reach agreement, the court would retain jurisdiction to impose a reasonable royalty to remedy the past and ongoing infringement.

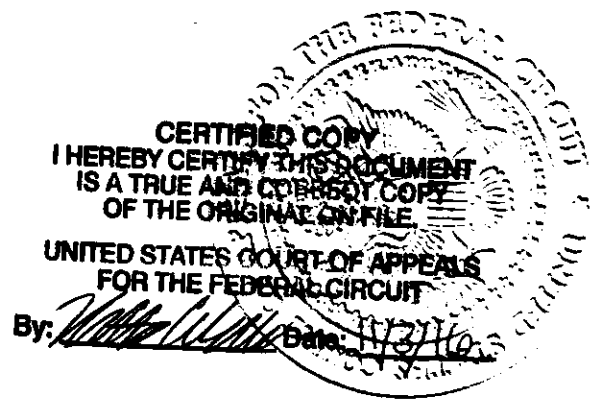


EXHIBIT 5

2430

128 SUPREME COURT REPORTER

553 U.S.

1

553 U.S. 1048, 171 L.Ed.2d 257

NEW YORK, petitioner,
v. **Anthony HILL**.
No. 07-1043.
May 12, 2008.

Case below, 9 N.Y.3d 189, 849 N.Y.S.2d 13, 879 N.E.2d 152.

Motion of respondent for leave to proceed *in forma pauperis* granted. Petition for writ of certiorari to the Court of Appeals of New York denied.



2

553 U.S. 1032, 171 L.Ed.2d 230

ORMCO CORPORATION, petitioner,
v. **ALIGN TECHNOLOGY, INC.**
No. 07-1070.
May 12, 2008.

Case below, 498 F.3d 1307.

Petition for writ of certiorari to the United States Court of Appeals for the Federal Circuit denied.



3

553 U.S. 1035, 171 L.Ed.2d 235

Kim Heichel MASON, petitioner,
v. **WASHINGTON**.
No. 07-9506.
May 12, 2008.

Case below, 160 Wash.2d 910, 162 P.3d 396.

Petition for writ of certiorari to the Supreme Court of Washington denied.



4

553 U.S. 1032, 171 L.Ed.2d 230

Ronald K. SCOTT, petitioner, v. **Keith B. QUIGLEY**, Senior Judge, Court of Common Pleas of Pennsylvania, Perry County, et al.

No. 07-1118.
May 12, 2008.

Case below, 248 Fed.Appx. 453.

Petition for writ of certiorari to the United States Court of Appeals for the Third Circuit denied.



5

553 U.S. 1032, 171 L.Ed.2d 230

Dennis PEET and **Jcemell Spencer**, petitioners, v. **CITY OF DETROIT, MICHIGAN**, et al.

No. 07-1119.
May 12, 2008.

Case below, 502 F.3d 557.

Petition for writ of certiorari to the United States Court of Appeals for the Sixth Circuit denied.



6

553 U.S. 1032, 171 L.Ed.2d 230

TOYOTA MOTOR CORPORATION, et al., petitioners, v. **PAICE LLC**.

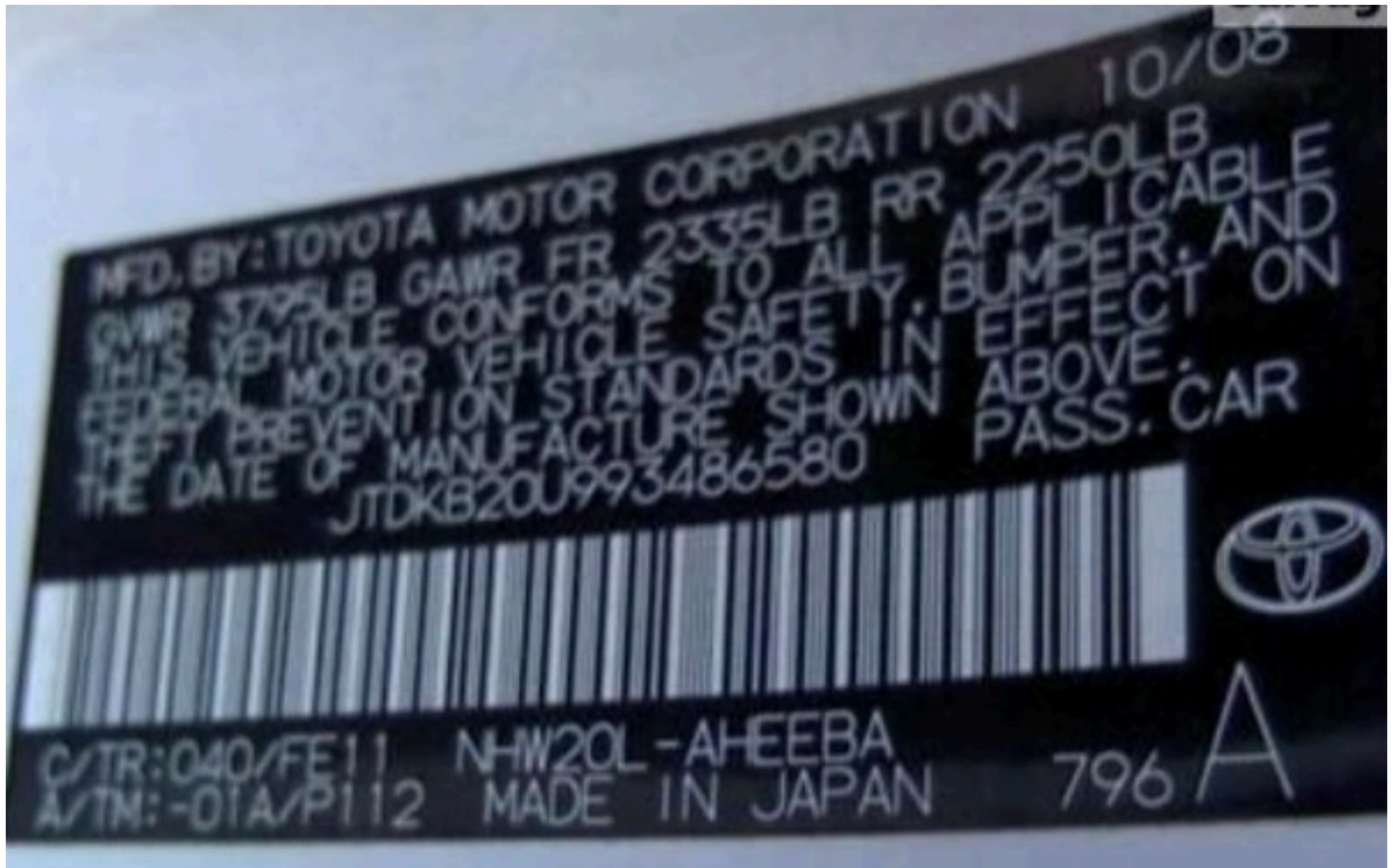
No. 07-1120.
May 12, 2008.

Case below, 504 F.3d 1293.

Petition for writ of certiorari to the United States Court of Appeals for the Federal Circuit denied.



EXHIBIT 6



CERTIFICATE OF SERVICE

I, Joyce Richard, Plaintiff *in Pro Per*, **HEREBY CERTIFY** that on this day, **November 5, 2018**, I electronically filed the foregoing PLAINTIFF'S AMENDED COMPLAINT document with the Clerk of the Court for the United States District Court for the Central District of California Santa Ana Division by using the Court CM/ECF system. Said CM/ECF system will provide electronic notice that the foregoing document is being served this day on all counsel of record or *pro se* parties identified on the attached Notice of Electronic Filing with a hyperlink to this document, or in the manner specified for those counsel or parties who are authorized to receive electronically Notices of Electronic filing.

By /s/ Joyce Richard

Joyce Richard, Plaintiff *in Pro Per*